

1 FLORIDA:

2 IN THE CIRCUIT COURT OF THE 11TH
3 JUDICIAL CIRCUIT IN AND FOR DADE
4 COUNTY, FLORIDA

5

6

7 GENERAL JURISDICTION DIVISION

8

9 - - - - - :
10 HOWARD A. ENGLE, M.D., et al. :
11 vs. : CASE NO.:
12 R. J. REYNOLDS TOBACCO COMPANY, : 94-08273CA(20)
13 Et al. :
14 - - - - - :

July 1, 1998

15 The deposition of CAHTY LYNN ELLIS, Ph.D.,
16 taken at the instance of the Plaintiff; pursuant to
17 Notice, before PATRICIA PRICE WHITE a Registered
18 Professional Reporter and Notary Public for the State
19 of Virginia at Large, on the 1st day of July, 1998,
20 beginning at 1:45 p.m., at the law offices of HUNTON
21 & WILLIAMS, Riverfront Plaza Building, 951 Byrd
22 Street, Richmond, Virginia; said deposition taken
23 pursuant to the Rules of the Supreme Court of
24 Virginia.

25

1 APPEARANCES:

2
3 STANLEY M. ROSENBLATT, P.A., 66 West Flagler Street,
12th Floor, Concord Building, Miami, Florida
33130-1809,

4 By: JOHN HOAG, ESQUIRE,
Counsel for the Plaintiff;

5
6 DECHERT, PRICE & RHOADS, 4000 Bell Atlantic Tower,
1717 Arch Street, Philadelphia, Pennsylvania
19103-2793,

7 BY: ANDREW R. C. GADDES, ESQUIRE,
Counsel for Philip Morris;

8 SHOOK, HARDY & BACON, L.L.P., One Kansas City Place,
9 1200 Main Street, Kansas City, Missouri 64105-2118,
BY: GREGORY L. FOWLER, ESQUIRE,
10 Counsel for witness Cathy Lynn Ellis.

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1
2 I N D E X

3 DIRECT CROSS REDIRECT RECROSS

4 Cathy Ellis 4

5

6 EXHIBITS

7

8 ELLIS DEPOSITION EXHIBITS: PAGE

9

10 Number 1 62
Philip Morris, Europe R & D

11 Number 2 62
12 Inter-Office Correspondence, 12/1/98

13 Number 3 117
Ryan/Dunn Alternate

14 Number 4 118
15 USA Today, newspaper article

16 Number 5 118
Inter-Office Correspondence, 11/3/77

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4

1 July 1, 1998

2
3 NOTE: The following telephonic
4 deposition was called to be heard at 1:45 p.m., viz:

5
6 CATHY L. ELLIS, Ph.D., a witness called at
7 the instance of the Plaintiff, first being duly
8 sworn, deposed and said, viz:

9 DIRECT EXAMINATION

10 BY MR. HOAG:

11 Q Could you state your name for the
12 record, please?

13 A Cathy Lynn Ellis.
14 Q And, of course, I have spoken to
15 you before, and I know that you have a Ph.D., so,
16 I'll refer to you as Dr. Ellis.
17 Have you taken any additional
18 depositions since you were deposed in the Broin depo?
19 A Yes.
20 Q Okay. Yes, to the question about
21 being deposed since the Broin case, correct?
22 A Since the case or since our
23 deposition?
24 Q Since the Broin deposition.
25 A Yes.

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Ellis - Direct

5

1 Q How many times have you been
2 deposed since the Broin deposition?
3 A Well, some of them are combined
4 depositions, so how do you want me to count? By
5 days? By cases? By what?
6 Q Well, let's start by number of
7 times, and then as you name the times, perhaps you
8 can recollect how many different cases each
9 individual time represented.
10 A Well, as I recall, I was deposed
11 in the Broin case approximately a year ago, and I
12 believe that was the end of May. And, since then, as
13 I recall, there was a deposition -- There were three
14 days, one of which was Washington, Forsina, and
15 Minnesota, and two of those days were Minnesota, one
16 of those days was Washington, and Forsina had one
17 hour or so, as I recall, but there was some cross
18 noticing of that. Later, after that, was another half
19 of a day for Minnesota. I was deposed in Florida, but
20 I don't recall if that was before or after the Broin
21 deposition.
22 Q Is that all that you can
23 recollect?
24 A That I can recollect right now.
25 Again, I'm trying to-- No. Forsina was after the

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Ellis - Direct

6

1 Broin deposition, that's right. It was also last
2 fall.
3 Q Who took your deposition in the
4 Minnesota case?
5 A Mr. Silberfeld and, what was his
6 name, another gentleman that I can't recall right
7 now.
8 Q And, approximately, what month
9 did that occur?
10 A The end of September and again in
11 the beginning of December.
12 Q So, it was like a several-month
13 break between finishing up the depo?

14 A That's right.
15 Q Do you remember what the reason
16 was for the long break?
17 A No. It was whenever Mr.
18 Silberfeld wanted to reschedule.
19 Q Did you testify at trial in
20 Minnesota?
21 A No.
22 Q Have you testified at any trial?
23 A No.
24 Q And, I'm just quickly looking.
25 You haven't changed positions since you were deposed

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Ellis - Direct

7

1 in Broin in May of 1997, correct?
2
3 MR. FOWLER: Objection. Vague.
4
5 A Is that a question or--
6 Q What I mean is, that was
7 Development back at the time you took the Broin
8 deposition, is that correct?
9 A I'm sorry. I didn't hear the
10 whole question that time.
11 Q You were Vice-President for
12 Product Development at the time of the Broin
13 deposition, is that correct?
14 A No, it's not.
15
16 Q MR. FOWLER: At the time of the
17 Broin deposition, is that right, John?
18 MR. HOAG: Yes. I said Broin.
19 MR. FOWLER: Yes.
20
21 A No, that's not correct.
22 Q Okay. I must have-- I must have
23 been provided with a C.V. that's old.
24 A Well, --
25 Q The C.V. I have in front of me

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8

1 that I was provided for the Engle case has your most
2 current position being Vice-President for Product
3 Development. What is your current position?
4
5 MR. FOWLER: Objection. It's
6 Vice-President of Research and Development.
7
8 A My current position is Senior
9 Vice-President of Worldwide Scientific Affairs.
10 Q And how long have you been in
11 that current position?
12 A Since December.
13 Q December of 1997?
14 A That's correct.

15 Q And, what position did you hold
16 immediately prior to that position?
17 A Senior Vice-President of Research
18 and Development.
19 Q And, was that the position that
20 you held at the time of the Broin deposition?
21 A Yes.
22 Q What are your duties as Senior
23 Vice-President of Worldwide Scientific Affairs?
24 A The duties of the Senior
25 Vice-President of Worldwide Scientific Affairs are to

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9

1 coordinate the review of scientific literature, to
2 sponsor research, to provide information to the
3 Corporation.

4 Q When you say provide information,
5 what kind of information are you referring to?

6 A Scientific information.

7 Q Is that a newly-created position?

8 A The Senior Vice-President of
9 Worldwide Scientific Affairs did not exist before,
10 but we had a Scientific Affairs Department within
11 R and D that did exist for quite some time.

12 Q And, do you know why they created
13 this new position that you filled in December of
14 1997?

15
16 MR. FOWLER: Object to the form.
17

18 A Well, I certainly would only
19 speculate, because I don't know what's in other
20 people's heads. But I do have to say that there's
21 obviously a great demand for scientific information,
22 and it seemed prudent to do so.

23 Q And when you say part of the
24 duties are to coordinate the review of scientific
25 literature, what particular types of scientific

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10

1 literature are you referring to?

2 A I don't understand your question.

3 What do you mean by types?

4 Q Well, are you referring to
5 scientific literature related to automobile
6 emissions, or are you referring to scientific
7 literature about everything in the world that's
8 science or is it in a particular area?

9
10 MR. FOWLER: I'd object to the
11 form.

12 You can go ahead and answer.

13
14 A Yeah, I think that it involves
15 anything to do with science. It's a scientific

16 review. And it may be chemistry, it may be biology,
17 it may be physics related, but it's science. It's
18 the scientific interpretation or a scientific
19 evaluation and analysis.

20 Q Do you have a staff?
21 A Absolutely.
22 Q How many people are on your
23 staff?
24 A Currently there are about 25.
25 Q Do you directly supervise all 25

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Ellis - Direct

11

1 of those people?
2 A No, I do not.
3 Q How many of them do you directly
4 supervise?
5 A I'm counting. Approximately six.
6 Q Now, is this position or was this
7 position a promotion for you?
8 A No, it was not.
9 Q Was it lateral? It wasn't a
10 demotion or a promotion, it was a lateral move?
11 A That's correct.
12 Q Did you receive any pay increase
13 as a result of the move?
14 A Yes.
15 Q What was your pay increase?
16 A You want the percent, the amount?
17 I'm not sure I can -- As I recall, the total pay
18 increase, when this happened, was about nine percent.
19 Part of that was a merit increase.
20 Q Okay. And what did that come out
21 to in actual round numbers? The total amount, not
22 the nine percent, but what was the total salary you
23 received when you began this position in December of
24 1997?
25 A Are you asking what is my current

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12

1 salary?
2 Q Well, I'm not necessarily.
3 A Or the increase?
4 Q I'm asking you what your salary
5 was when you began this position in December, your
6 yearly salary when you began this position in
7 December of 1997?
8 A It's about \$260,000 a year.
9 Q And, has that base yearly salary
10 changed in any way since December of 1997?
11 A No, it hasn't.
12 Q Do you receive any other forms of
13 compensation, other than the base salary?
14 A Yes, I do.
15 Q What are the other forms of
16 compensation you receive?

17
18 MR. FOWLER: You know, before we
19 go into that, I'm going to object.
20 You went into this in great
21 detail in the Broin case and it's, you know,
22 replowing already plowed ground.
23 MR. HOAG: Okay. I am going to
24 make every effort to try to avoid unnecessary
25 repetition in this deposition. But, for this

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13

1 purpose, I feel that I need to get the most current
2 information and that's why I'm asking it.
3

4 Q What are the other forms of
5 compensation you receive?

6 A The other forms of compensation
7 are incentive compensation, which is a yearly bonus.
8 There are stock option awards, which come yearly.
9 There is a long-term incentive plan, which is awarded
10 every three years, and there is a deferred
11 profit-sharing program.

12 Q And, when was the most recent
13 time you received a yearly bonus?

14 A Every January, the end of
15 January.

16 Q January of 1998?

17 A That's correct.

18 Q What was your yearly bonus you
19 received in January of 1998?

20 A I think it was approximately,
21 this is before taxes were taken out, I believe,
22 \$145,000.

23 Q And, when is the most recent time
24 you received the long-term incentive bonus or
25 payment?

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14

1 A That was also around the same
2 time, the three years were up in 1998.

3 Q And, how much did you receive?

4 A Again, before taxes were taken
5 out, the total amount was around \$300,000.

6 Q And, have you received any
7 additional stock options since May of 1997?

8 A I have not received them yet.
9 But I will tell you that the Board has -- I know that
10 the Board met last Wednesday, and I know that they
11 were granted, but I have not received mine yet.

12 Q And, do you know how many shares
13 of options you're going to receive?

14 A No, I do not.

15 Q Now, one of the specific
16 documents -- Have you reviewed any documents in
17 preparation for your deposition today?

18 A Specifically, I reviewed my
19 expert report for this.
20 Q Yes. Anything else?
21 A I review documents every day and
22 literature reports every day, so I wouldn't say that
23 they're specifically for this particular case.
24 Q Have you reviewed any Philip
25 Morris internal documents in preparation for this

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15

1 deposition?
2 A Specifically, no.
3 Q Okay. We've been provided copies
4 of certain Philip Morris internal documents that
5 we've been informed that you will be relying on in
6 some way. Are you aware of that?
7 A Yes.
8 Q And, have you reviewed those
9 documents?
10 A Well, at one time, yes.
11 Q Did you select those specific
12 documents?
13 A Yes. I have been through them,
14 reviewed them, read them. I have read many more than
15 those.
16 Q Did you specifically select those
17 yourself as those that you wanted to emphasize for
18 discussion during your deposition?
19 A Let me go back and review the
20 process. Obviously, as you're aware, I've been
21 involved in this process for quite some time. And, as
22 you're also aware, I have created an extensive
23 bibliography of documents.
24 As I proceed through the
25 requirements and needs of the various cases and

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16

1 through the different expert reports, different
2 topics come up that I need to coordinate with Counsel
3 and understand what topics are the issues in the
4 various cases. And, then, what we do is, then speak
5 about those topics and review the list of documents
6 internal and external that I feel are relevant to
7 those topics, and that's the process that's used.
8 Q When you say "we review," who do
9 you mean? Who is we?
10 A Well, whoever is involved in the
11 case will inform me of the various topics that might
12 come up or that, obviously, in the writing of the
13 expert report that are relevant to that particular
14 case. Obviously, in Broin, that was a little bit
15 different than Engle is, and I think that's pretty
16 obvious.
17 Q You haven't reviewed all of the
18 Philip Morris internal documents, have you, all of

19 them that exist?
20 A No, I haven't.
21 Q You haven't reviewed all them
22 that are exhibits in the Minnesota trial, have you?
23
24 MR. FOWLER: Object to the form.
25

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Ellis - Direct

17

1 A No, I haven't.
2 Q Do you know how many Philip
3 Morris internal documents are exhibits--were used as
4 exhibits in the Minnesota trial?
5 A No.
6
7 MR. FOWLER: You're saying
8 actually used at trial?
9 MR. HOAG: Yes. That's what I'm
10 asking the witness, if she knows. If she doesn't
11 know, that's okay. I just want to know.
12
13 A Well, I know there were a number
14 of different figures, you know, used in various
15 categories of documents. I will say that I have a
16 rather extensive collection of exhibits and trial
17 transcripts from Minnesota. I don't know if I have a
18 complete collection, but I do have at least two full
19 file cabinets full of Minnesota information.
20 Q Some of the documents that we've
21 been provided for your deposition, we've been
22 provided by Counsel representing you and Philip
23 Morris are either from or to William Dunn. Are you
24 aware of that?
25 A I know some of them are, yes.

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18

1 Q Do you know who William Dunn is?
2 A Yes, I do.
3 Q Who is he?
4 A He was a gentleman that worked in
5 R and D for a period of time.
6 Q When you say "R and D," you mean
7 Research and Development, right?
8 A Yes, I do.
9 Q And, what was his position in
10 Research and Development?
11 A Well, he was a Senior Scientist
12 and the official position was either Associate
13 Principal Scientist or Principal Scientist, at one
14 time. So he was one of the Senior Staff Scientists
15 in R and D.
16 Q And he had or has a Ph.D.,
17 correct?
18 A That's my understanding, yes.
19 Q What is the Ph.D. in, if you

20 know?
21 A I'm not sure, specifically. But
22 I believe it was in some area relevant to psychology.
23 Q Now, have you looked at all of
24 the Philip Morris internal documents that Dr. Dunn
25 has authored?

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19

1 A I didn't check off whether or not
2 I've looked at all of them. It could be I have. I've
3 certainly looked at many of them.

4 Q How would you know whether or not
5 you had looked at all of them?

6 A Well, I would have to understand
7 or have a list of all the documents that existed, and
8 what I'm trying to say is, while I've read many of
9 Dr. Dunn's documents, I have not specifically checked
10 to see if I have read all of them or have all of
11 them.

12 Q Have you ever requested a list of
13 all of the documents that Dr. Dunn has authored that
14 are Philip Morris internal documents?

15 A I actually believe I have. I
16 have, in some cases. I don't know if I have
17 specifically for Dr. Dunn.

18 Q In what cases do you recollect
19 where you have asked for all of the internal
20 documents authored by a specific individual?

21
22 MR. FOWLER: In what case?
23

24 Q No. In what-- Not in what case
25 meaning what legal case, but, under what

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20

1 circumstances or what--I'm not thinking of the right
2 word.

3 What example, if any, do you have
4 of an individual whose complete document list you
5 have requested?

6 A A while back I reviewed all of
7 Dr. DeNoble's documents and also recently I have
8 reviewed all of Dr. Gullotta's documents.

9 Q What do you mean recently
10 reviewed all of Dr. Gullotta's documents?

11 A Well, recently I requested a
12 complete set, is what I mean.

13 Q How recently?

14 A Oh, maybe a month or two ago.

15 Q Do you know whether what was
16 before or after the deposition of Dr. Gullotta was
17 taken in the Engle case?

18 A I have no idea.

19 Q Decide to--

20 A I'm sorry. You broke up.

21 Q Yes, I turned my head.
22 Why did you decide to request a
23 listing of all the documents that have been authored
24 by Dr. Gullotta?
25 A Quite frankly, I believe, at one

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21

1 time, I figured out I was missing one, and I wanted
2 to make sure I wasn't missing any others.

3 Q And other than Dr. DeNoble and
4 Dr. Gullotta, are there any other names you can think
5 of where you requested a complete list of all the
6 documents that they have authored that are Philip
7 Morris internal documents?

8 A Yes, Ray Morgan.

9 Q Other than those three
10 individuals, are there any other people you can think
11 of?

12 A No. Not that I can think of
13 right now. I may have, again, but, I can't recall any
14 others that I know I've gone through them.

15 Q Why did you request all the
16 documents authored by Ray Morgan?

17 A Because of the allegations.

18 Q And, what allegations are you
19 referring to?

20 A The allegations that came up
21 about a year ago where Ray Morgan appeared in the
22 newspapers.

23 Q You're talking about Ray Morgan's
24 statement that, among other things, that he was told
25 to destroy research data he had indicating that the

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Ellis - Direct

22

1 Virginia Slims cigarette had a Nitrosamine in it, K
2 Nitrosamine level that was higher than reference
3 cigarettes that had been tested? Is that what you're
4 referring to?

5
6 MR. FOWLER: Object to the form of
7 the question.

8 Could you hold on for a second?
9 I'm sorry, John, somebody just stuck their head in
10 the door and said something. Hold on.

11 Is there a question pending? I'm
12 sorry.

13 MR. HOAG: Yes, but we can have it
14 read back after you're finished. Are you done?

15 MR. FOWLER: Could we just-- Let's
16 answer that question, now, and then we'll see what's
17 happening. There is a phone call for Dr. Ellis, and
18 we'll just need to check and see what that's all
19 about, and we won't make another interruption like
20 this.

21

22 A There were two reasons. One is to
23 investigate the files relative to the allegations of
24 an unknown Nitrosamine; and two was to investigate
25 the files relative to the allegations of NNK levels.

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Ellis - Direct

23

1 Q Okay. I have follows-ups, but
2 I'll wait.

3 A Okay. Thank you.

5 MR. FOWLER: Off the record.

10
11 MR. FOWLER: Okay. John, we're
12 all back.

14 BY MR. HOAG: (Continuing)

15 Q You were saying, Dr. Ellis, that
16 the two reasons that you wanted to get a list of Dr.
17 Ray Morgan's authored documents was relating to his
18 statements about NNK? You wanted to see anything
19 that he has written or any documents related to NNK,
20 anything related to an unknown Nitrosamine, is that
21 right?

22 A That's what I stated, yes.

Q Now, if Dr. Morgan says that he destroyed all of the written data, you wouldn't have expected to find any data directly about the specific

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Ellis - Direct

24

1 topic he was told to destroy data on? That makes
2 sense, right?

4 MR. FOWLER: Could you hold on,
5 John?

6 (Addressing the Court Reporter)

7 Did you get all of that?
8 John, you br
9 (Addressing
10 Can you read that question back?

11
12 NOTE: The last question asked of
13 the witness by Mr. Hoag was read aloud by the
14 Reporter.

16 MR. FOWLER: Object to the form of
17 the question.

18 MR. HOAG: Let me rephrase it. Now
19 that I have heard it, it's a little convoluted. So,
20 let me try to rephrase it.

23
24
25

MR. FOWLER: John, could you stop
again? You broke up again. We couldn't hear the

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Ellis - Direct

25

1 first part.

2 MR. HOAG: Okay. I'll try again.

3

4 Q Dr. Ellis, you understand that
5 Dr. Morgan says that he was told to destroy all the
6 data that he had related to the NNK levels of the
7 Virginia Slims cigarettes, right?

8

9 MR. FOWLER: Object to the form.

10

11 A You broke up in the middle of
12 that and--

13 Q I don't know why. I was right on
14 top of the phone. Maybe I'm too close to it.

15 A I object to your saying "all."
16 Obviously, there are many other pieces of data in the
17 files on NNK, and I certainly found many other
18 references to measuring NNK in rooms and offices, et
19 cetera. So, there is plenty of information there.

20 Q Okay. But, my question is, you
21 wouldn't, in this review of NNK information from Dr.
22 Morgan, you would not expect to find anything about
23 NNK measurements of the Virginia Slims cigarette
24 because he said he was told to destroy all that data,
25 correct?

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Ellis - Direct

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1
2 MR. FOWLER: Objection on the
3 basis of foundation.

4 A I don't know that that's correct,
5 no.

7 Q You do know that he said he was
8 ordered to destroy all of the data concerning
9 measurements he took of the NNK level of the Virginia
10 Slims cigarette, correct?

11
12 MR. FOWLER: Object to the form.

13
14 A I recall some version of that in
15 the newspapers, yes.

16 Q Have you had occasion to read any
17 of the depositions taken of Dr. Morgan?

18 A Yes, I have.

19 Q Do you recall that he also said
20 that during the sworn depositions that he took?

21 A I have read his depositions, yes.

22 Q And,--

23 A Or parts of them.

24 Q And he said under oath that he
25 was told to destroy the data that he had collected

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Ellis - Direct

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1 regarding the NNK level of the Virginia Slims
2 cigarette, correct?

4 MR. FOWLER: Object to the form.
5

6 A That's what's in his deposition.
7 Q Now, did you find, during your

8 review of documents from Dr. Morgan that he had, in
9 fact, along with other people, perhaps, done any
10 original research concerning Nitrosamines?

11 A Could you repeat that, please? I
12 don't understand the question.

13 Q Well, based on your review of the
14 documents related to Dr. Morgan, in your opinion, has
15 he done any original research on NNK?

16 MR. HOAG: I don't understand this
17 at all. This is the worst problem I've had in a long
18 time with the phone.

19 NOTE: At this point, a recess was
20 had from at 2:14 p.m. to 2:16 p.m., whereupon the
21 deposition proceeded, viz:

22 MR. HOAG: I don't know where we

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Ellis - Direct

28

1 were, now.

2 (Addressing the Court Reporter)

3 Can you read back the last question and answer,
4 please?

5 MR. GADDES: Object to the form.

6 MR. FOWLER: That's his question.

7 DR. ELLIS: Oh.

8 MR. FOWLER: (Addressing the Court
9 Reporter) Why don't you reread it, and then we'll go
10 from there.

11 NOTE: The last question asked of
12 the witness by Mr. Hoag was read aloud by the
13 Reporter.

14 MR. FOWLER: Object to the form.

15 Go ahead and answer.

16 A Yeah. I'm not sure I understand
17 what you mean by original research.

18 Q Let me put it another way. Has
19 he done any research regarding any effort to remove
20 at least some of the Nitrosamines, tobacco-specific,
21 Nitrosamines in tobacco?

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Ellis - Direct

29

1 MR. FOWLER: I know he said
2 tobacco specific.
3

4 A Yeah. You're breaking up again.
5 If your question is, has he done any research
6 regarding the removal of Nitrosamines--
7 ?

8 Q A method of lowering Nitrosamine
9 level in tobacco-specific Nitrosamine levels in
10 cigarettes?

11 A Again, you broke up in the middle
12 of that question. I didn't get all of it.
13

14 MR. FOWLER: I'll tell you what,
15 John. Why don't we try and go to a different
16 conference room and see if we can't get a better
17 connection that way?

18 MR. HOAG: Okay. Hopefully, that
19 will work.

20 Why don't we call back in, in
21 just five minutes?

22 MR. HOAG: I'll just keep my line
23 open, thanks.

25 NOTE: At this point, a recess was

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30

1 had from 2:18 p.m. to 2:27 p.m. In order to change
2 conference rooms, whereupon the deposition proceeded,
3 viz:

4 MR. FOWLER: You're coming in more
5 loudly and more clearly.

7 MR. HOAG: Okay. Well, good.

8 MR. FOWLER: Would you mind if I
9 just made a quick statement for the record?

10 Just for the record, we, to the
11 reader of the deposition who might not understand
12 what's going on, we are on a speaker phone
13 deposition. We're having trouble hearing Mr. Hoag's
14 questions. We've moved to a different conference
15 room with a different speaker phone in the hopes that
16 would improve things. By the sound of things, it may
17 have markedly improved the telephone connection.
18 And, hopefully, we'll be in better shape to hear and
19 respond to your questions.

20 I apologize for the inconvenience
21 Mr. Hoag.

22 MR. HOAG: Okay. Well, I don't
23 think it's anyone's fault.

24 Okay. Let's continue.
25

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31

1 BY MR. HOAG: (Continuing)

2 Q I'll follow up with some
3 additional questions relating to Dr. Morgan.

4 Back on specific Nitrosamines.

5 Let me just talk about those for a second.

6 NNK, NNN, NAT are all
7 tobacco-specific Nitrosamines, correct?

8 A Yes.

9 Q And, NNK has been found to be
10 carcinogenic in animals, correct?

11 A NNK has been identified to be an
12 animal carcinogen in certain studies, yes.

13 Q And so has NNN, correct?

14 A There are certain studies in
15 which NNN has been identified, but not to the same
16 degree, no.

17 Q Now, the formation of
18 tobacco-specific Nitrosamines is at least, in part,
19 due to the fact that there are alkaloids in tobacco,
20 correct?

21 A One of the potential precursors
22 of tobacco-specific nitrosamines are thought to be
23 the minor alkaloids, yes.

24 Q And, most of the alkaloid or
25 alkaloids that are in tobacco is from the nicotine,

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32

1 correct?

2 A Nicotine is one of the alkaloids
3 in tobacco. There are others.

4 Q But the majority of the alkaloid
5 comes from the nicotine, correct?

6 A Nicotine is the major alkaloid in
7 tobacco.

8 Q The majority, right? It's about
9 80 percent or more of the alkaloid in tobacco comes
10 from the nicotine, correct?

11 A I said Nicotine is the major
12 alkaloid in tobacco, yes.

13 Q Now, did Dr. Morgan do any
14 research in an effort to find out if it was possible
15 to remove any of the Nitrosamines or at least remove
16 a certain percentage of the Nitrosamines from
17 cigarette smoke in cigarettes?

18 A Dr. Morgan, some of Dr. Morgan's
19 work involved, ultimately, that goal, yes, as well as
20 many other people who worked in the area.

21 Q And, did he discover, along with,
22 perhaps, some other people that worked in the area
23 with him at Philip Morris, that there was a method of
24 removing at least some of Nitrosamines in tobacco
25 smoke?

1
2 MR. FOWLER: Object to the form.
3
4 A I've already said that Dr. Morgan
5 was involved in the tobacco-specific Nitrosamine
6 research and that that was the ultimate goal of the
7 research. I'm not sure I understand whether or not or
8 what you're asking relative to the specific studies
9 that he was involved in.

10 Q What was the goal of the
11 research?

12 A The goal of the tobacco-specific
13 Nitrosamine research that Dr. Morgan participated in,
14 along with a number of other people, was to reduce
15 Nitrosamines.

16 Q You don't know whether or not he
17 actually wrote up any research where a method of
18 doing that was documented?

19 A And what I'm trying to tell you
20 is that many methods were looked at for reducing
21 Nitrosamines, and I don't know which one you're
22 referring to.

23 Q Well, I'm referring to anyone
24 that Dr. Morgan participated in when he and perhaps
25 others wrote up the results of the research.

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1
2 MR. FOWLER: (Addressing the Court
3 Reporter) So why don't you read that question back,
4 then?

5
6 NOTE: The requested question was
7 read aloud by the Reporter.

8
9 A Well, Dr. Morgan wrote up the
10 results of his research, yes. So, as far as I'm
11 concerned, I really don't understand what you're
12 referring to. Yes, he was involved in Nitrosamine
13 research. Yes, we were focused on reducing
14 Nitrosamines. Which specific study you're referring
15 to, I'm not sure.

16 Q But, you do know that he did
17 write up studies when he discussed a method whereby
18 the amount of Nitrosamines could be reduced in
19 tobacco smoke, is that correct?

20
21 MR. FOWLER: You know, John, if
22 you have a particular study in mind, it would help
23 the witness, because she's saying that she needs some
24 help on your question, I think.

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1 Q Well, all I'm asking her, if she
2 knows. If she doesn't know right now, she can just
3 tell me that.

4

5 MR. FOWLER: I know. But, if you
6 tell her what you're talking about, it can make
7 things go on a lot more smoothly and quickly.

8

9 Q Well, I can't be any more
10 specific than that. That's what my question is. If
11 she doesn't know, she doesn't know.

12 A And what I'm trying to say is
13 that many people were doing that kind of work and
14 were writing up that kind of work.

15 Q Okay. The reason I'm asking you
16 this question about Ray Morgan is because you said
17 that you have a list of everything that he's ever
18 written at Philip Morris, and he's only one of three
19 people who requested such a list. So, I'm asking you
20 if you know whether or not he, himself, has written
21 any research that showed a method whereby the amount
22 of NNK can be reduced in tobacco or cigarette smoke.

23

24 MR. FOWLER: Object to the form of
25 the question.

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1 A Well, let me put this in context.
2 The review of Dr. Morgan's work took place over a
3 year ago, first of all.

4 Number 2, I did indicate for
5 three people that I more extensively looked at their
6 personal records, scientific records, within the
7 Company. However, I have many file cabinets of many
8 different other records, and these were only three
9 that I could recall right now that I specifically
10 went back to look to make sure I had a complete set.

11 So, this in no way means that I,
12 you know, have this specific focus on Dr. Morgan,
13 especially within the last eight months. Now, yes,
14 I've reviewed his reports and, yes, he was involved
15 in research on tobacco-specific Nitrosamines, and,
16 yes, that research was focused on the reduction of
17 Nitrosamines.

18 I'm sure that within the context
19 of that work and what I've read, there are some
20 references to reducing Nitrosamines. However, I'm
21 not sure, specifically, what you're referring to.

22 Q Well, do you know if any of the
23 information concerning how the Nitrosamine level
24 could be reduced in cigarette smoke was published in

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1 1980s, I mean published in the public domain by
 2 Philip Morris scientists?

3
 4 MR. FOWLER: (Addressing the Court
 5 Reporter) Could you read that question back? Did you
 6 get that?
 7

8 NOTE: The requested question was
 9 read aloud by the Reporter.

10
 11 MR. FOWLER: Object to the form.
 12

13 A There were Nitrosamine
 14 publications by Philip Morris scientists, one in
 15 1980, in particular, whereby volatile Nitrosamines
 16 were measured in commercial cigarettes. There were no
 17 other specific methods published. Obviously, this was
 18 a goal of the Company to provide and have a
 19 technology whereby we could use it, and I would say
 20 that probably we would not publish that, we would
 21 patent it if, indeed, we did obtain such technology,
 22 such as the Denic process, which we did patent.

23 Q You said there was an article
 24 published that was done based on research done by
 25 Philip Morris scientists in 1980 concerning the level

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1 of volatile Nitrosamines in cigarettes?

2 A That's correct, Dr. Fink.

3 Q Were there any articles published
 4 at anytime in the 1980s concerning measurements of
 5 the level of tobacco-specific Nitrosamines in
 6 cigarettes, and I mean published by Philip Morris
 7 scientists in the public domain?

8 A Not that I can recall right now.
 9 There were other scientific literature reports about
 10 those levels.

11 Q Well, volatile Nitrosamines
 12 really are relatively insignificant compared to the
 13 amount of tobacco-specific Nitrosamines in
 14 cigarettes, correct?

15
 16 MR. FOWLER: Object to the form of
 17 the question.
 18

19 A Technically, no. If you're
 20 speaking about amount, no, your're incorrect. And the
 21 reason of the progression of the work is relative to
 22 the progression of the methodology that was
 23 developed. It wasn't until the late 70s that
 24 sensitive equipment, that is a TEA, or Thermal Energy
 25 Analyzer, was developed so that measurements could be

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1 made. The initial ones that were easier to measure
2 were the volatile Nitrosamines. And they were
3 measured and they were published in over 20
4 commercial cigarettes.

5 And it was after that, that
6 methodology was developed for actually analyzing, and
7 this had to do more with sample preparation, the
8 tobacco-specific Nitrosamines, which are more
9 associated with the particle phase. So, as the
10 methodology progressed, so did work.

11 Q When was the methodology
12 available to the public for measuring the amount of
13 volatile Nitrosamines in tobacco smoke?

14 A It was about the same time. It
15 was Dr. Fine in 1975 that developed the Thermal
16 Energy Analyzer. He's not a Philip Morris scientist.

17 Q The public domain publication
18 published information about volatile Nitrosamines in
19 tobacco smoke around 1975, is that correct?

20 A No. That was the development
21 of the methodology, the Thermal Energy Analyzer. The
22 volatile Nitrosamines that the paper I'm specifically
23 referring to was published in 1980.

24 Q Published by Philip Morris
25 scientists?

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1 A That's correct.

2 Q Prior to 1980, did any scientists
3 who were not tobacco industry scientists publish any
4 articles indicating any volatile Nitrosamines in
5 cigarette smoke?

6 A There were other publications as
7 on Nitrosamines levels, many of which and even some
8 internal to the Company, but those were largely using
9 methodologies that were either nonspecific or were
10 not sensitive.

11 Q So, was Philip Morris ahead of
12 the scientific community outside of the tobacco
13 industry as far as the measurement of volatile
14 Nitrosamines are concerned?

15 MR. FOWLER: Object to the form.
16

18 A I don't believe so, no. The
19 methodology was developed outside the TEA.

20 Q Why did they publish information
21 on the measurement of volatile Nitrosamines and not
22 publish information in the 1980s on the measurement
23 of tobacco-specific Nitrosamines they were doing?

24 A It was being published by others
25 at that time.

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1 Q The volatile Nitrosamines was
2 being published by others at the time, too, correct?
3

4 MR. FOWLER: (Addressing the Court
5 Reporter) Could you read the question back?
6

7 NOTE: The requested question was
8 read aloud by the Reporter.
9

10 MR. FOWLER: Object to the form.
11
12 A I have not done a thorough review
13 of all the other publications on volatile
14 Nitrosamines at the time.
15 Q But, you are aware that volatile
16 Nitrosamines are not and were not the focus of the
17 research that Dr. Morgan and others did? The focus of
18 that research was on tobacco-specific Nitrosamines,
19 correct?

20 A That's correct.
21 Q Just because that was considered
22 to be the more significant Nitrosamine contamination
23 in cigarette smoke, correct?
24

25 MR. GADDES: Object to the form.

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1 MR. FOWLER: Object to the form.
2

3 A Actually, volatile Nitrosamines
4 were, in one of the Surgeon General's reports,
5 thought to not really be an issue, and volume
6 Nitrosamines were basically thought to be taken care
7 of by filtration. So, the focus then went to the
8 Nitrosamines that were associated with the particle
9 phase.

10 Q You're talking about the
11 tobacco-specific Nitrosamines, correct?

12 A The Nitrosamines associated with
13 the particle phase in smoke are tobacco-specific
14 Nitrosamines, yes.

15 Q And that's different from the
16 volatile Nitrosamines, correct?

17 A Yeah. I think I understand your
18 question. Yes, particle phase is different from
19 volatile or gas phase.

20 Q And tobacco-specific Nitrosamines
21 are not the same thing as volatile Nitrosamines,
22 correct?

23 A That's correct. The volatile
24 Nitrosamines can be found in other places, not just
25 in tobacco smoke.

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1 Q When was the first year that

2 Philip Morris scientists published in the public
3 domain any research concerning measurements of NNK
4 Nitrosamine in tobacco smoke?

5 A (Addressing the Court Reporter)

6 Could you read that back? I missed--

7

8 NOTE: The requested question was
9 read aloud by the Reporter.

10

11 A I'm not aware of any right now.

12 Q You're not aware that any have

13 ever been published in the public domain to date, is
14 that correct?

15 A No. I thought your question was
16 Philip Morris scientists.

17 Q Right. Any have been published by
18 Philip Morris scientists that are published in the
19 public domain to date, there are none that you're
20 aware of, is that correct?

21 A No. There're many other reports
22 on that in the public domain.

23 Q No. I didn't ask you about other
24 reports. I asked you about Philip Morris scientists
25 doing research that was published in the public

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1 domain concerning the NNK Nitrosamine measurements.
2 Has that ever been published in the public domain, to
3 your knowledge?

4 A I don't recall any right now.

5 Q Do you recall whether any Philip
6 Morris scientists have ever requested that any of
7 their research be considered for publication in the
8 public domain that was related to Nitrosamines? I'm
9 talking about tobacco-specific Nitrosamines?

10 A Do I recall if anybody requested
11 it to be published?

12 Q Yes.

13 A Again, our research in this area
14 was heavily focused on designing experiments to
15 develop methodologies for reduction. Frequently,
16 those studies are not studies that are designed to be
17 published. They're designed to develop methods and
18 then patent those methods. So, no, the basic design
19 of the study and focus of the work was not to
20 publish. It was to develop actual, viable commercial
21 methods.

22 Q Well, did Philip Morris ever
23 discover any information concerning the measurement
24 of the Nitrosamine, the tobacco-specific Nitrosamine
25 level that was not available in the public domain at

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1 the time it was discovered?
2

3 MR. FOWLER: Object to the form.
4
5 A At the time what was discovered?
6 Q Any information that Philip
7 Morris discovered concerning the NNK Nitrosamine
8 level of cigarette smoke.
9 A As I indicated, there were other
10 publications in the public domain on NNK in tobacco
11 smoke.
12 Q But that wasn't my question. My
13 question was,--
14
15 MR. HOAG: (Addressing the Court
16 Reporter) Can you read it back so that we can be real
17 specific?
18
19 NOTE: The requested question was
20 read aloud by the Reporter.
21
22 MR. FOWLER: I think she answered
23 that question.
24 But, you can answer again, if you
25 can.

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1
2 A Yeah. Obviously, in the--in some
3 of our studies, some of our studies were focused on
4 doing work that was not, again, the same kind of
5 study that was being done that was published. A lot
6 of the work what was published related to measuring
7 levels of Nitrosamines. Our work was on developing
8 methodologies.
9 And, you know, there may have
10 been other pieces of data, but none of it was
11 reproduced in such a way that it was a publishable
12 study and that was not the focus of the work. The
13 focus of the work was to develop a commercial
14 process.

15 Q To your knowledge, in your review
16 of documents authored by Dr. Dunn, did he ever
17 discuss the possibility of burying research if it
18 didn't turn out the way Philip Morris wanted it to
19 turn out?

20
21 MR. FOWLER: Object to the form.
22

23 A There is one document that I
24 recall. I don't know if that was Dr. Dunn.
25 Q What's the one document you

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1 recall?
2 A I believe it was Dr. Osdene.
3 Q You think Dr. Osdene was the

4 author of the document?
5 A No. Maybe it was Dr. Dunn. I'm
6 sorry. I'm getting the two confused.
7 Q And what do you recollect about
8 that document?
9 A Which document?
10 Q The document, you just said it
11 was Dr. Osdene, and you changed your mind and thought
12 it was Dr. Dunn.
13
14 MR. FOWLER: I'm going to object
15 to the form.
16
17 A Well, I'd really, really like to
18 see the document. As I recall, there might have been
19 some reference to Dr. Dunn talking about some early
20 experiments.
21 Q You actually recollect having
22 seen the document, correct?
23 A Yes.
24 Q And --
25 A The particular document I recall

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1 seeing, Dr. Dunn, I believe it was Dr. Dunn, was
2 writing to Dr. Osdene, and I followed up on that
3 particular document and happened to know that the
4 data that was referred to in that document does exist
5 in the laboratory notebook. So, if that is the one
6 you're speaking of, that data does exist. Again, I'm
7 speculating on the one you're speaking of, so--
8 Q How did you ascertain that it was
9 in a laboratory notebook?
10 A I looked.
11 Q What laboratory notebook are you
12 referring to?
13 A I spoke with the individual
14 involved.
15 Q What individual are you referring
16 to?
17 A Dr. Carolyn Levy.
18 Q How long ago did you do this?
19 A At least, probably a year ago.
20 Q And you looked in her notebook?
21 A Yes.
22 Q What did you see in her notebook?
23 A Data.
24 Q What data did you see?
25 A The data associated with that

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1 study.
2 Q What study was that?
3 A It was, I believe, a study on
4 discrimination.

5 Q When you say "discrimination,"
6 what do you mean?
7 A Well, she was investigating the
8 ability of animals to discriminate nicotine.
9 Q What do you mean discriminate
10 nicotine?
11 A Tell the difference.
12 Q And how would one ascertain that
13 an animal could tell the difference?
14
15 MR. FOWLER: Objection on the
16 basis of foundation.
17
18 A I'm not sure I understand what
19 you really want.
20 Q It's your answer. You said
21 discriminate, the animals can discriminate. I'm
22 trying to ask you to explain what you mean by the
23 animals discriminating to the sense that they can
24 identify nicotine. What do you mean by that?
25

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1 MR. FOWLER: Objection on the
2 basis of foundation.
3
4 A To tell whether or not the
5 animals can tell the difference between two
6 substances. For example, water and water with
7 something in it.
8 Q How does one go about telling if
9 the animal can tell the difference?
10 A By looking at their behavior.
11 Q What behavior was looked at for
12 this particular study that you saw in the notebook of
13 Carolyn Levy?
14 A I really don't know. I was not
15 present at the study. I do know the data are there.
16 Q Was the notebook information that
17 she had in a report form or did it just remain in her
18 notebook?
19 A It was in a tabular form and, as
20 I recall, there was some conclusion. It was either
21 in-- There was either a conclusion or I got a
22 conclusion from Carolyn or I got a conclusion from a
23 general summary from another report, and the
24 conclusion was, was that the actual methodology was
25 highly variable and could not be used to discriminate

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1 in this situation.
2 Q So, you didn't get any research
3 that enabled them to ascertain any kind of a
4 conclusion in one direction or another, is that
5 correct?

6 A They concluded that the
7 methodology was not sufficiently sensitive or was not
8 sufficient to be able to tell anything.

9 Q So then there wasn't any reason
10 to bury it, because it didn't come out positive or
11 negative. It just didn't come out at all, correct?

12
13 MR. FOWLER: Object to the form of
14 the question.
15

16 A I don't know how to respond to
17 that.

18 Q Any way you want to.
19 A Then I'd rather not.
20

21 MR. FOWLER: Object to the form.
22 That question wasn't capable of being answered. Why
23 don't you ask her --
24

25 Q Did you ever find out why Dr.

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1 Dunn had written a memo saying that he wanted to bury
2 information if it didn't come out in a favorable way?

3 A No, I did not.

4 Q Do you know how often Philip
5 Morris has done this in the past?
6

7 MR. FOWLER: Object to the form.
8 MR. GADDES: Object to the form.
9

10 A Never that I know of.

11 Q I guess you're laughing. I mean,
12 how would you know if it was actually buried, right?
13 You'd never find it?

14 A Well, I've certainly been there
15 long enough to know a few things. Thank you.

16 Q Yes, but if it actually was
17 successfully buried, then you wouldn't find it,
18 right?

19
20 MR. GADDES: Object to the form.
21 MR. FOWLER: Object to the form of
22 the question.
23

24 Q I mean, isn't that what the
25 purpose of burying information is, so that you will

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1 never find it, correct?

2
3 MR. FOWLER: I'm going to object
4 to this argumentative line of questioning.
5

6 Q Can you answer that question?

7 A Well, like I said, I've been
8 there for quite some time, and I've certainly been
9 involved personally in, myself, in doing research and
10 also in supervising research. I think I know what
11 goes on.

12 I've supervised many people in
13 many programs. And, in my experience, that hasn't
14 happened.

15 Q Do you know a person named Jan
16 Jones?

17 A Yes, I do.

18 Q Who is she or he? I'm not sure
19 if it's a he or she.

20 A It is a she, and she has been at
21 the Company in Research and Development early on for
22 some time, and did some smoker behavior studies.

23 Q Do you know whether she ever
24 developed any kind of apparatus that would be worn by
25 a smoker?

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1 A Yes. I don't know if she devised
2 it, but there was what was called a vest study,
3 whereby she was using the vest to determine the
4 number of puffs, for example, that a smoker would
5 take.

6 Q And, was the vest study ever
7 completed?

8 A To my knowledge, the latest
9 reports I've seen and based on my discussion
10 personally with Jan, that those studies were found to
11 be highly variable and, therefore, based on the pilot
12 studies. Therefore, they did not determine that that
13 was a useful technique.

14 Q And when did you discuss this
15 with her?

16 A Again, it has to be over a year
17 ago.

18 Q Now, the vest study done by Jan
19 Jones, that was mentioned in at least one of the
20 depositions of Dr. Ray Morgan, correct?

21 MR. FOWLER: Object to the form.
22

23 As I recall yes.

24 Q Is that one of the reasons you

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1 went to the trouble of talking to Jan Jones about
2 that study?

3 A I really don't recall. All I can
4 tell you is that the area of compensation is an area
5 that I have been covering, and I have looked at many
6 different documents on that.

7 Q When you say "compensation," what

8 are you referring to?
9 A Smoking behavior.
10 Q Compensation and smoking behavior
11 are the same thing to you?
12 A No.
13 Q Well, what is compensation? What
14 type of smoking behavior is compensation?
15 A Well, that --
16
17 MR. FOWLER: Object to the form of
18 the question.
19
20 A I'm talking about studying
21 compensation, the phenomenon called compensation, not
22 the behavior of compensation.
23 Q What is the phenomenon of
24 compensation?
25 A Well, the phenomenon is whether

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1 or not a person changes their behavior.
2 Q In what way?
3 A Well, in either of two ways. You
4 either smoke a cigarette so that you get more tar or
5 you smoke a cigarette that you get less tar, and it's
6 been looked at both ways; that is, switching to
7 higher tar cigarette or switching to a lower tar
8 cigarette.
9 Q And, does nicotine come into the
10 equation anywhere at all, in your opinion?
11
12 MR. FOWLER: Object to the form.
13
14 A Nicotine relates to tar, yes.
15 Q And, Dr. Dunn did or commissioned
16 research related to this compensation, didn't he?
17 A I don't know what you mean by
18 commissioned.
19 Q Well, did he do research on
20 compensation?
21 A I don't know if Dr. Dunn
22 specifically did any research on compensation or
23 anything else.
24 Q Well, what is the earliest time
25 frame that you're aware of that Philip Morris did any

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1 or contracted to have any research done related to
2 compensation, as you've defined it?
3 A As I recall from the documents,
4 I've read documents back in 1973.
5 Q You don't recall anything earlier
6 than 1973?
7 A Sitting here today, no.
8 Q Okay. I'd like to get marked the

9 document that is "To: Ferguson, dated May 12, 1997,
10 Research and Development."
11
12 MR. FOWLER: Okay. It's Ferguson.
13 MR. HOAG: Yes. It's Bates
14 Stamped Number 20625000 (sic) and it goes to--
15 DR. KINSER: You cut off again.
16 MR. FOWLER: Yes, we couldn't hear
17 the number.
18 DR. KINSER: We couldn't hear the
19 whole number.
20
21 Q I'll say it again. It's Bates
22 stamped Number 2062574000 and it seems to end at
23 4016.
24
25 MR. FOWLER: Okay. Well, can you

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1 ask some more questions while we look through and see
2 if we can't find that document or do you need to have
3 that right now?

4 MR. HOAG: Well, I--
5 MR. FOWLER: Well, why don't you
6 do this? Why don't you tell us the documents that
7 you want us to copy and mark so we can do it all in
8 one fell swoop and we can take a break now, because
9 we've been going for about an hour and a half.

10 MR. HOAG: Okay. It's that
11 document, and the other one is dated December 1st,
12 1978 document from Osdene called Nicotine Program,
13 and it's Bates Stamped Number 1003177391, and the
14 last number on that document is 396. Those are the
15 only two.

16 MR. FOWLER: And these are from
17 the set that we provided to you, that Dr. Ellis
18 relies upon, in part, for her opinions in the case,
19 is that right?

20 MR. HOAG: Those two documents are
21 among those that you provided.

22 MR. FOWLER: Thanks. Okay. Why
23 don't we take, say, ten minutes? And we'll get
24 copies of these and be back on.

25 MR. HOAG: Okay. And, I'm going

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1 to FAX to you two documents, also, that are in
2 addition to those.

3 MR. FOWLER: Okay. We'll wait and
4 get those. Well, we'll give them to the Court
5 Reporter. She can mark them in whatever order you
6 want, and we'll get going again.

7 MR. HOAG: Okay.

8

9 NOTE: At this point, a recess was

10 had from 3:02 p.m. to 3:16 p.m., whereupon the
11 deposition proceeded, viz:

12

13 MR. FOWLER: Now, how do you want
14 those marked? Do you want Ferguson as Number 1?

15 MR. HOAG: Yes.

16 MR. FOWLER: Okay. And then the,
17 what was it, Osdene as Number 2?

18 MR. HOAG: Yes, that's fine. And
19 you should be getting the other two momentarily.

20 MR. FOWLER: Okay. That's good.

21 MR. HOAG: I've FAXed them to you
22 already.

23 MR. FOWLER: Okay. Good. And we
24 can just go on and we'll just get those others when
25 they come in, if you want to do it that way.

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1 MR. HOAG: That sounds good.
2

3 NOTE: A copy of a Memorandum
4 dated May 12, 1997, To: R. Ferguson, From: J. J.
5 Piage was marked and filed as ELLIS DEPOSITION
6 EXHIBIT NUMBER 1, and is attached to the back of the
7 original of said deposition transcript.

8 Also, at this point, a copy of an
9 Inter-Office Correspondence Memorandum, dated
10 December 1, 1978, To: Dr. R. B. Seligman, From: T. S.
11 Osdene was marked and filed as ELLIS DEPOSITION
12 EXHIBIT NUMBER 2, and is attached to the back of the
13 original of said deposition transcript.

14

15 BY MR. HOAG: (Continuing)

16 Q Okay. Before I specifically refer
17 to the documents, I want to go back to Dr. Ray
18 Morgan's--information that you have about Dr. Ray
19 Morgan.

20 You said you also wanted to find
21 whatever information you could about an unknown
22 Nitrosamine. What, if anything, did you discover
23 related to an unknown Nitrosamine as it related to
24 Dr. Morgan?
25

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1 MR. FOWLER: Object to the form.
2

3 A First of all, I reviewed Dr.
4 Morgan's documents, Dr. Morgan's notebooks. I also
5 reviewed and spoke with some of the individuals that
6 he sent some of the samples to, and they reviewed
7 their files, and we looked at and examined the data
8 that was available at the time. And, the bottom line
9 on this total process was that Dr. Morgan believed he
10 saw a peak that he was trying to identify. The

11 understanding of the rest of the scientists, both in
12 Richmond and Neuchatel, Switzerland, was that this
13 peak was sometimes seen and sometimes it was not.

14 My review of the documents
15 indicated that, in his attempt to get more of the
16 material, Dr. Morgan actually optimized the
17 artifactual formation of this compound, thereby
18 indicating that this compound may not actually exist
19 in normal analyses. My review of the information from
20 three other researchers that assisted Dr. Morgan with
21 the actual identification process was that, for over
22 a period of about two to three years, Dr. Morgan
23 would provide them samples, and there was no
24 confirmation of any Nitrosamine in that process, and
25 that the files were left open as Dr. Morgan never

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1 submitted any further samples.

2 Q Now, referring to the vest that
3 was used by, developed by Jan Jones, is it correct to
4 say that she developed a vest to measure whether or
5 not cigarette smokes were compensating in their
6 smoking inhalation?

7 A As I indicated before, I don't
8 recall who developed the vest. It may have been Jan.
9 It may have been somebody else. I know she used a
10 vest in some of her studies.

11 Q Do you know whether or not the
12 vest functioned like it was expected to function?

13 A I don't know what you mean by
14 that. I think it functioned in being able to
15 ascertain when a person took a puff, for example,
16 yes.

17 Q Was there anything that you know
18 of that was wrong with the vest, as far as use for
19 its intended purpose?

20
21 MR. FOWLER: Object to the form.
22

23 A Not that I can recall right now.
24 I'd have to go back and review the documents on that
25 specific point.

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1 Q And, did you say there was some
2 kind of a pilot research project done using the vest?

3 A Yes.

4 Q And was that ever written up in
5 any internal documents?

6 A Absolutely. That's how I know
7 about it.

8 Q And, what were the results of the
9 pilot project?

10 A As I indicated, they found highly
11 variable results, and, therefore, found that there

12 was no way that they could really use this
13 methodology to be able to tell them anything.
14 Q When you say "highly variable,"
15 what do you mean?
16 A Just what I said, you know, that
17 the results from the pilot was that there was a wide
18 variety of responses measured.
19 Q Well, how many people were
20 involved in the pilot project or the pilot research
21 of the vest?
22 A As I recall, again it was a
23 pilot. It was like less than ten.
24 Q And what was the methodology for
25 that research?

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1 A I'm not sure I can recall that
2 specifically. I don't know what you mean. The
3 methodology was, I think, to look at the people as
4 they were smoking and to ascertain puff number, puff
5 volume, et cetera, if that's what you mean.
6 Q Well, I'm not sure what I mean,
7 because I'm not familiar with the particular internal
8 document, to tell you the truth.
9 I was hoping that you could
10 explain to me what the methodology was. Can you, to
11 the best of your recollection, explain the
12 methodology used for that pilot project?
13
14 MR. FOWLER: I'm going to object.
15 I think she has already explained she doesn't have it
16 clearly in mind at this point. But, you can go head
17 and answer the question to the best of your ability.
18
19 A The best that I can recall right
20 now is that they used the vest to ascertain puff
21 volume, puff number, et cetera.
22 Q You used ten subjects who put on
23 the vest, and they measured these things with ten
24 people, correct?
25 A I said, there were less than ten

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1 that I recall.
2 Q Less than ten. And, after they
3 did this pilot project, did they just dump the whole
4 project?
5
6 MR. FOWLER: Object to the form.
7
8 A Yeah. There was a very
9 thoughtful process in analyzing the data and the
10 data, basically, indicated that with the large
11 variety, the large variation that was seen in the
12 results, that proceeding further with this mode of

13 study would not tell them anything. Again, in
14 science, you have to get statistically significant
15 differences in order to make a determination, and it
16 was very clear, and I'm not sure, it was determined
17 for what reason.

18 It could be that the smoking
19 behavior was very different. It could be that the
20 vest didn't work. I didn't look at it from that
21 standpoint. But the, bottom line here was that there
22 was a large variation that did not prove to be
23 something that was worth pursuing.

24 Q When you say "large variation,"
25 was the variation different on different people or

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1 did it vary significantly on the same person?
2 A As I just indicated, I don't
3 specifically recall. But now that you bring it up, I
4 think there was some potential for actual variations
5 within the same person.

6 Q Who made the decision not to
7 continue the research?

8 A I don't know that, specifically,
9 but it was certainly indicated in the document that I
10 read that the scientists did not feel like this was
11 going to tell them anything, scientifically. The
12 methodology was not good enough.

13 Q And, approximately, what year was
14 this done?

15 A Oh, I -- I can't recall,
16 specifically. I think it was in the late '80s, early
17 '90s, somewhere around there.

18 Q Referring to the May 12th, 1997
19 document to Ferguson from Piage, marked as
20 Plaintiff's Exhibit 1, do you see that?

21 A Yes, I do.

22 Q Now, that's the research that you
23 requested be done after you heard the statements made
24 by Dr. Morgan indicating that the Virginia Slims
25 cigarettes had a higher Nitrosamine level than the

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1 reference cigarette, is that correct?

2
3 MR. FOWLER: Object to the form.
4

5 A It is the research that I
6 requested be done, but it wasn't after Virginia Slims
7 cigarettes were found to have higher Nitrosamine
8 levels than the reference cigarettes. That's a very
9 broad statement.

10 I think it was basically under
11 the specific conditions of this chamber, that there
12 was some supposed observation made.

13 Q Well, you requested that this

14 research be done in response to things that Dr.
15 Morgan was saying, correct?
16 A Yes.
17 Q And, prior to the time you read
18 in the newspaper or in sworn depositions what Dr.
19 Morgan was saying, you had not requested that this
20 research be done, correct?
21 A Correct.
22 Q Okay. Now, referring to Page 9--
23
24 MR. FOWLER: And we're referring,
25 just for the record, to Exhibit Number 1.

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1
2 Q Referring to Exhibit Number 1 and
3 Page 9 of that exhibit. Can you, looking at the
4 charts, there is a C 20 in the left-hand corner of
5 the chart. What do the C 20 signify?
6 A C 20 was one of the referenced
7 cigarettes that was commonly used in experimental
8 studies in Europe, just like a 1R4F or the Kentucky
9 reference cigarette is used in experimental studies
10 in the United States.
11 Q What is the difference between
12 the C 20 and a commercial cigarette?
13 A The C 20 and a commercial
14 cigarette, as I understand it, are very identical in
15 that they have the same sorts of tobaccos, papers,
16 filters, et cetera.
17 Q They don't have all the additives
18 of the commercial cigarette, correct?
19
20 MR. FOWLER: Object to the form.
21
22 A That's my understanding. By
23 definition of an experimental cigarette, you would
24 not want to have that variability.
25 Q Okay. Now, looking at the data

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1 for the C 20, it looks like they did five different
2 chamber runs, if that's the correct terminology, is
3 that right?
4 A I believe they've done much more
5 than that.
6 Q Well, using the C 20?
7 A What do you mean by "chamber
8 runs"?
9 Q Well, I don't know. I was hoping
10 I was using the right expression. If that's wrong,
11 let's start over again. This has #1, and the column
12 goes down and it's black; #4, and a column with
13 numbers; #6, column with numbers; #10, column with
14 numbers; and, #12, column with numbers.

15 What does ##1, 4, 6, 10 and 12
16 represent?
17 A Yeah, if you go back to Page 6,
18 you will see what it represents. Those are the 17
19 chamber runs. And, for the C 20, because they had to
20 vary, they did not want to do all the C 20 first and
21 then all the next cigarette. They varied which
22 cigarette was done. But the table that they followed
23 and the protocol they followed is listed on Page 6.
24 Q Okay. So that, in fact, does
25 represent six separate chambers, ##1, 2, 3--

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1 A Four.
2 Q --five separate chamber runs?
3 A Yes. One was blocked out, there
4 was a technical problem, as I recall. There was a
5 leak in the first.-- The first chamber run had a leak
6 in the chamber.
7 Q Okay. And, what this shows is
8 that after a half hour, when you average out the four
9 runs that didn't have a problem, the average
10 Nitrosamine measurement was 1,360 nanograms, correct?
11 A After 30 minutes, the average was
12 1,360 nanograms per cubic meter.
13 Q Okay. And, the numbers go to--
14 The highest number there is, after four-and-a-half
15 hours, 4,476 nanograms of NNK, correct?
16 A That's, if after four-and-a-half,
17 yes, it was 4,476. After five-and-a-half it was
18 4,451. Nanograms per cubic meter from 30 cigarettes.
19 Q Right. So, and then looking at
20 Page 10, Page 10 shows, in the left-hand corner, ML,
21 that's the Marlboro 100, is that correct?
22 A Yes, that's correct.
23 Q So, as opposed to Page 9, which
24 is a reference cigarette which is not a commercial
25 cigarette, Number 10 was actually a test on a

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1 commercial cigarette, one that you can buy in a
2 store, correct?
3 A That's correct.
4 Q And, the commercial cigarette,
5 after one-half hour, the average four runs shown is
6 2,306 nanograms, correct?
7 A Just a second. I'm sorry. That's
8 correct, nanograms per cubic meter.
9 Q 360 nanograms of NNK per cubic
10 meter after one-half hour on the commercial, the
11 Marlboro 100, correct?
12 A After one-half hour there were
13 2,306 nanograms per cubic meter in the Marlboro 100
14 for 30 cigarettes, nanograms per cubic meter.
15 Q And that's compared to 1,360

16 nanograms per cubic meter after one-half hour on the
17 reference cigarette labeled C 20, correct?
18 A Yes. C 20 was an 84 millimeter
19 cigarette. Marlboro 100 was a 100 millimeter
20 cigarette. It's a longer cigarette. The reason why
21 we picked a 100 millimeter cigarette is because
22 Virginia Slims is also 100 millimeter.
23 So, you have much more tobacco
24 that was burned in those 30 cigarettes than you would
25 have in a C 20. The C 20 was only used in these

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1 experiments because a C 20 was a control for the
2 previous studies that were done in the '80s.
3 Q So, it was an 84 millimeter
4 cigarette as compared to a 100 millimeter cigarette?
5 A That's correct.
6 Q Okay. So, as a percentage, the
7 percentage is still higher for the commercial
8 cigarettes as compared to the noncommercial--
9
10 MR. FOWLER: I'm sorry, John, have
11 you completed your question?
12 MR. HOAG: Yes.
13 MR. FOWLER: Could you read that
14 back, then? I'm sorry.
15

16 NOTE: The requested question was
17 read aloud by the Reporter.

19 Q If you look at the nanograms,
20 average nanograms after one-half hour, measured in
21 the Marlboro cigarette of 2,306, and you compare that
22 to 1,360 for the 84 millimeter, that still means
23 millimeter per millimeter the Marlboro has a higher
24 nanogram NNK reading, doesn't it?

25 A Millimeter per millimeter? First

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1 of all, your first question was comparing commercial
2 versus noncommercial cigarettes, and there is no way
3 this experimental design is meant to do that. As I
4 said, the C 20 was there for control to make sure
5 that we were getting the same design and results that
6 we did previously in the chamber. So, it's a
7 historical control in this chamber. The actual
8 experimental control for the Virginia Slims, because,
9 as you recall, the allegation was Virginia Slims was
10 unique. And, obviously, Virginia Slims is not unique
11 in any way, based on the results of this test.

12 Q Well, the allegation was that
13 Virginia Slims was the first commercial cigarette
14 that Dr. Morgan had tested. The allegation was that
15 the Virginia Slims had a higher nanogram reading than
16 the noncommercial reference cigarette. As you

17 recall, Dr. Morgan didn't compare it to a Marlboro
18 100, correct?
19

20 MR. FOWLER: Well, object to the
21 form of the question.
22

23 Q Is that correct?
24 A Not -- Not to my-- I don't recall
25 that, specifically. As a matter of fact, I know for

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1 a fact that in the chamber Marlboro was tested and
2 Nitrosamines were analyzed in Richmond. So, I'm not
3 sure that that is a valid conclusion.

4 Q Do you recollect anywhere in Dr.
5 Morgan's testimony that he said he was comparing a
6 Virginia Slims reading to a Marlboro 100 reading?

7 A What I recall is that Dr. Morgan
8 seemed to be trying to say or want to say that
9 Virginia Slims had some uniquely high value of NNK in
10 this particular experimental chamber, and it was
11 higher than anything else that was ever noticed
12 before. That's what I recall him trying to say. And
13 I don't really know if he was comparing it to
14 standard reference cigarettes or commercial
15 cigarettes or which of those or any. But that,--

16 Q But the only NNK level ever
17 measured in those chambers in Richmond, prior to the
18 time you measure the Virginia Slims, was the NNK
19 level of reference cigarettes, correct?

20
21 MR. FOWLER: Object to the form.
22

23 A I didn't hear. Was the NNK level
24 of what?
25 Q Of reference cigarettes, not

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1 commercial cigarettes. Correct?

2 A As I indicated before, Marlboro
3 was run in the chamber in Richmond and Nitrosamines
4 were collected. That is indicated in the logbook.

5 Q You're not really saying that
6 that's what Dr. Morgan was comparing the Virginia
7 Slims reading to, are you? You know that he was
8 comparing the Virginia Slims reading to the reading
9 that he was getting from reference, noncommercial
10 cigarettes, don't you?

11
12 MR. FOWLER: You know, John, I
13 really have to object to this question and this line
14 of questioning. You know, whatever Morgan says on
15 the record, he said on the record, and the witness
16 told you what she recollects he was saying. And, it's
17 inappropriate to now try to get her to change her

18 mind about what she recollects Morgan saying. He said
19 what he said.

20
21 Q If you can, answer. If you think
22 he said something different than what I just said,
23 you go ahead and say that.

24
25 MR. FOWLER: It's asked and

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1 answered.
2

3 A I've already indicated that my
4 recollection was that he was trying to indicate that
5 Virginia Slims was, in some way, unique in terms of
6 the level of NNK in the sidestream chamber. And
7 that's what I recall.

8 Q Now, if you compare an 84
9 millimeter to 100 millimeter, as a percentage, how
10 much larger is the 100 millimeter than the 84
11 millimeter cigarette--as a percentage?

12
13 MR. FOWLER: Objection. Are you
14 talking just mere millimeters? Are you talking about
15 cigarette volume? What are you talking about or
16 tobacco volume or what?

17
18 Q I'm talking about the 100
19 millimeter cigarettes. How much larger is 100
20 millimeter than the 84? That's the question I'm
21 asking the witness.

22
23 MR. FOWLER: I object to that
24 question. It's an incomplete hypothetical.

25

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1 A Well, it's a little bit more
2 complicated than that, because you have to go back
3 and look at the length of the filter. The tobacco
4 rod, and I, quite frankly, don't have that data
5 sitting in front of me. The tobacco rod actually may
6 be more different than you might think if the filter
7 size was the same.

8 Q Does a 100 millimeter cigarette,
9 does a 100 millimeter Marlboro cigarette have more
10 than 20 percent more tobacco in it than the C 20
11 reference cigarette?

12 A Again, I indicated I would have
13 to go back and there is actual data and look that
14 data. I don't have that in front of me.

15 Q Well, look at 2,306 nanograms for
16 the Marlboro 100 and comparing it to 1,360 nanograms
17 for the C 20 reference cigarette, the increase of
18 eight--from 1,866 as compared to 1,360, is more than

19 a 20 percent increase, isn't it?
20 A Well, I --
21
22 MR. FOWLER: Can you tell me what
23 numbers you're talking about, John? I'm sorry.
24 MR. HOAG: I'm sorry. The
25 increase from 2,306, as compared to 1,360. That's

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1 more than a 20 percent increase, isn't it?
2
3 A Oh, I was looking for this.
4 Wait. Excuse me. Two things: First of all, there is
5 no way that a scientist would compare these two
6 figures and make that conclusion. Dr. Piage made and
7 did the statistical analyses and everything that is
8 significant is indicated in the conclusions of this
9 report.
10 The other thing is, is that if
11 you look at the end of the report, in the tables, you
12 will see that, indeed, there is an indication for C20
13 that the length of that cigarette was 84 millimeters.
14 The cigarette weight is indicated. I'm trying to
15 find--
16 Q Well, what is the cigarette
17 weight?
18 A Cigarette weight was 979 for
19 C20.
20
21 MR. FOWLER: And, she--
22
23 Q Is that 979 for everything in the
24 cigarette, including the filter or just the tobacco?
25 A That is the cigarette weight. If

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1 you look down below, you would have filler weight and
2 that's 144.
3 Q And what's the cigarette weight
4 for the Marlboro?
5 A And, I am trying to see if that
6 is indicated, and I don't see it. I believe that he
7 put the C 20 and C 50 data in here because that's not
8 something we would have had readily. But we had the
9 Marlboro figures readily in Richmond.
10 Q So, to look at these percentages,
11 that would be a relatively simple thing for you to do
12 if you wanted to, correct?
13 A Yes. And, obviously, as I
14 recall, I believe I did look at that. That certainly
15 was something that I obviously was aware of, that
16 these cigarettes were different sizes, therefore, you
17 would never want to compare them. One is not a
18 control for the other.
19 Q Well, then, you didn't duplicate

20 the information that Dr. Morgan had?
21 A I absolutely did. His allegation,
22 again, related to Virginia Slims being unique and the
23 experiment here was to compare it to a commercial
24 cigarette, and that being the Marlboro. Again, the
25 C20 was only there as a historical reference.

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1 Q But, the only experiment that Dr.
2 Morgan was able to do before he was told not to do it
3 anymore, was to compare the commercial cigarette that
4 he did look at to the reference cigarette
5 measurements that he had obtained before? That was
6 the only thing that he was able to do before he was
7 instructed not to do anymore research on commercial
8 cigarettes, isn't that correct?
9

10 MR. FOWLER: Well, I'm going to
11 object to the testimony of Counsel and the statements
12 on the record assumes facts not in evidence. It
13 assumes facts not demonstrated, and it assumes facts
14 are hotly contested. I object to the form of the
15 question.

16 Q You can answer.
17 A No. That wasn't what he--all he

18 did. There were other numbers available, readily
19 available. And, as you recall, there was another
20 study that was done after this alleged event occurred
21 that involved Nitrosamines in cigarettes and a
22 variety of different cigarettes. You have that
23 memo. It was given to you at the last deposition.
24

25 Q Now, referring again to the

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1 chart, the charts on Pages 9 and 10 of Plaintiff's
2 Exhibit 1. Page 10, the Marlboro 100. The level of
3 nanograms after one-half hour was 2,306, and the
4 level of nanograms after five-and-a-half hours was
5 7,098, correct?

6 A Nanograms per meter cubed for 30
7 cigarettes, yes.

8 Q So, as the cigarette smoke aged,
9 the amount of nanograms of NNK increased, correct?

10 A That is a phenomenon that's been
11 observed in this particular sidestream chamber. We
12 have other studies that were done in office
13 buildings, and those did not indicate that there was
14 an accumulation of NNK, as is demonstrated in this
15 particular chamber. Again, recall this chamber was
16 virtually a sealed chamber and was very unique.

17 Q Referring to Page 11 of the
18 Virginia Slims cigarette. After one-half hour, the
19 Virginia Slims cigarette averaged 2,344 nanograms of
20 NNK, correct?

21 A That's the average listed in the
22 table. However, you're saying the Virginia Slims
23 cigarettes averaged and, no, that's not correct. It
24 was the NNK in nanograms per cubic meter for 30
25 cigarettes. So, when you keep saying that you're

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1 attributing these numbers to individual cigarettes,
2 I'm going to have to correct you.

3 Q How many cubic meters of smoke
4 are in one cigarette?

5 A The volume of a puff, generally
6 speaking, when we put these cigarette in a machine,
7 is about 35 cc's or 35 milliliters, and that has
8 nothing to do with what's in the cubic meters in the
9 room. You're comparing apples and oranges.

10 Q So, if someone was on an airline,
11 for example, when smoking was allowed and they lit up
12 a cigarette, and someone was sitting right next to
13 them as the cigarette smoke emanated toward the
14 person that was sitting right next to them, that
15 would be actually closer proximity to the cigarette
16 smoke than one would be in a chamber where the air is
17 distributed around the chamber, wouldn't it?

18
19 MR. FOWLER: John, you remember
20 this is the Engel case, not the Broin case we're here
21 for, right?

22
23 Q You can answer.
24 A Well, technically speaking, the
25 situation you're describing is very complex. What

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1 you're describing now is what we call fresh
2 sidestream smoke. And, obviously, in five-and-a-half
3 hours, the person sitting next to someone in an
4 airline is not going to be experiencing fresh
5 sidestream smoke. So, you really cannot compare
6 those two at all.

7 Q Well, I wasn't looking at the
8 five half-hour number. I'm still looking at the
9 2,244 nanogram number for the half hour.

10 A And I will say, even in a half
11 hour, you can't compare to that, nor can you compare
12 to the fact that that person sitting next to that
13 person is going to be smoking 30 cigarettes in that
14 half hour. So, again, you're trying to compare apples
15 and oranges, and it's really not comparable.

16 Q So, you have no idea how many
17 nanograms of NNK are going to be in the cigarette
18 smoke from the smoke emanating from someone sitting
19 in an airline at any given moment, is that correct?

20
21 MR. FOWLER: Object to the from.

22
23 Q Do you know?
24 A Well, I don't know if every given
25 moment has been analyzed. But, certainly fresh

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1 sidestream smoke has been analyzed, yes.
2 Q What you do know is there will be
3 some level of nanograms of NNK in the smoke, correct?
4 A I would expect there would be
5 some nanograms of NNK in the smoke, yes.
6 Q And you know that as smoke ages
7 the amount of nanograms of NNK increases, correct?
8 A In what situation? In the
9 situation of a sealed chamber or in a situation where
10 there's ventilation and the smoke is dissipated? No,
11 in a situation where the smoke is dissipated, it will
12 not increase, and that has been demonstrated.
13 Q Referring to page-- Well, let's
14 look at Page 11 for a second more. There is a
15 consistent increase in the NNK level over time for
16 the Virginia Slims cigarette, correct?
17 A There is, in table-- In table--
18 Page 11, the numbers do increase over time. It isn't
19 for that particular cigarette, again. It's for 30
20 cigarettes in a room, sealed.
21 Q Besides that brand of cigarettes,
22 what it depicts is how the Virginia Slims brand of
23 cigarettes increases in nanograms of the
24 tobacco-specific Nitrosamine NNK over time in a
25 chamber, correct?

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1 A Are you saying that this is
2 depicting what the Virginia Slims brand will do in a
3 sidestream chamber over time?
4 Q Yes.
5 A Gee, I don't think this was a
6 measure of a brand. Again, this study was really
7 looking at whether or not there is anything unusual
8 about this particular cigarette. And, obviously, it
9 indicated that it--there wasn't. There was no attempt
10 here to do a brand-by-brand analysis.
11 Q Now, on Page 12, you have C51 and
12 C50.
13 A Was there a question?
14 Q Yes. What is C50?
15 A Again, it's another reference
16 cigarette that's indicated in the back of the--on
17 Table II you'll get some more specifics. Again, it
18 was a historical control, and, Dr. Piage used these
19 cigarettes to ensure that he was getting results
20 similar to those that he was getting back in the
21 1980s and the '90s.
22 Q It is a reference cigarette that

23 is not sold commercially, correct?
24 A That's correct.
25 Q It doesn't have all the additives

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1 in it that a Virginia Slims cigarette has in it, for
2 example, correct?
3 A That's by design, that's right.
4 Because, if you put in volatile additives, and you
5 want to do experiments on those cigarettes, you're
6 going to have those volatile additives volatilize off
7 those cigarettes, and you're not going to have a
8 stable control cigarette.

9 Q And the Virginia Slims cigarette
10 has the largest amount of nanograms measured,--were
11 greater than five-and-a-half hours and that was 6,666
12 nanograms --

13 A You broke up completely, then. We
14 missed the whole first part of that question.

15 Q Okay. I'll start over.
16 I'm referring now to the
17 Plaintiff's Exhibit 1. It shows that after
18 five-and-a-half hours the Virginia Slims cigarette
19 has 6,666 nanograms of NNK measured, and the C50
20 cigarette, after five-and-a-half hours, has 4,930
21 nanograms of NNK measured, correct?

22 A Again, Mr. Hoag, you're comparing
23 a cigarette to cigarette, in the way you're
24 describing it. You're comparing a Virginia Slims
25 cigarette to a C50 cigarette. That's not what the

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1 study did. This study was 30 cigarettes in a chamber,
2 and you're comparing the level of NNK in a cubic
3 meter, and there are nanograms per cubic meter. So
4 you cannot phrase it that way.

5 Q Well, comparing the nanograms per
6 cubic meter, the Virginia Slims, after five half
7 hours, had 6,666 nanograms of NNK and the C50 had,
8 after five and a half hours, 4,970 nanograms of NNK,
9 correct?

10
11 MR. FOWLER: Objection.
12

13 A That's an average of four runs.
14 There's a lot of variability. The statistical
15 analysis is shown on Page 13, and it indicates that
16 there is, what is statistically significant is
17 indicated. So, again, you have to do the statistics.

18 Q Since doing this test on May
19 12th, 1997, have you done any additional replication
20 tests?

21 A Not to my knowledge, no.

22 Q Do they plan to look at any other
23 commercial cigarettes?

24 A Not to my knowledge, no.
25 Q You haven't asked them to look at

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1 any additional commercial cigarettes, have you?
2 A No, I have not.
3 Q If you asked them to look at
4 additional commercial cigarettes, they would,
5 correct?
6 A I would assume so, yes.
7 Q Okay. Referring to Plaintiff's
8 Exhibit 2, the December 1st, 1978 Philip Morris
9 interoffice communication to Seligman from Osdene,
10 Subject: Nicotine Program. Do you see that?
11
12 Yes. It's Seligman,
13 S-E-L-I-G-M-A-N.
14
15 A Yeah. It's from T. S. Osdene to
16 Dr. R. B. Seligman.
17 Q Okay. From Osdene to Seligman?
18 A That's correct.
19 Q And this is one of the documents
20 that you rely on, is that correct?
21 A Yes.
22 Q And, who is T. S. Osdene?
23 A Dr. Osdene is or was the Director
24 of research and then a Vice-President of science and
25 technology at Philip Morris.

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1 Q Is he retired now?
2 A Yes, he is.
3 Q What year did he retire?
4 A What year? I believe it was in
5 the early '90s.
6 Q And who is Seligman, Dr.
7 Seligman?
8 A Seligman was a former
9 Vice-President of Research and Development.
10 Q Have you discussed this document
11 with either of those two gentlemen?
12 A No, I have not.
13 Q This document says it's an
14 outline of our Nicotine Program, parts of which are
15 to be implemented in the future with Dr. Leo Abood.
16 Do you know Leo Abood?
17 A Yes, I do.
18 Q Who is Leo Abood?
19 A Yes, I do.
20 Q And who is he?
21 A Dr. Abood is an eminent scientist
22 and researcher that has specific expertise in
23 nicotine and neuropharmacology.
24 Q And, is he a Philip Morris

25 employee?

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1 A No, he's not.
2 Q Is he a Philip Morris
3 consultant?
4

5 MR. FOWLER: Object to the form of
6 the question.
7

8 A At various times he has done work
9 for Philip Morris, yes.
10 Q By "work for Philip Morris," what
11 do you mean?
12 A Well, he's done research related
13 to this program.
14 Q And, he's paid by Philip Morris
15 to do the research, correct?
16 A Yes.
17 Q And did Philip Morris ever tell
18 Dr. Abood what type of research they wanted to have
19 accomplished?
20

21 MR. FOWLER: (Addressing the Court
22 Reporter) Could you repeat that question, read it
23 back?
24

25 Q Did Philip Morris ever tell Dr.

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1 Abood what type of research they wanted to have
2 accomplished? Does he just do whatever he wants to
3 do?
4

5 MR. FOWLER: Object to the form.
6

7 A Oh. Well, in some cases, I
8 believe Dr. Abood was funded on proposals that he
9 wrote. And, in other cases, especially with this
10 Nicotine Program, I believe he was given some of the
11 nicotine analogues to screen.

12 Q What does that mean "screen the
13 nicotine analogues"?

14 A It means that he tested them in a
15 variety or in some of the crude tests that were done,
16 some initial screening tests; that is, they're very
17 crude, and they look for various biological activity
18 in a variety of different systems.

19 Q What is the nicotine analogue?

20 A The nicotine analogue is a
21 compound that's structurally similar to nicotine.

22 Q And what was the purpose of
23 looking for a nicotine analogue?

24 A One of the purposes of looking
25 for a nicotine analogue was to find a nicotine

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1 analogue or a compound structurally similar to
2 nicotine that did not have some of the peripheral
3 effects that nicotine had.

4 Q What peripheral effects are you
5 referring to?

6 A Heart rate effects or blood
7 pressure effects, for example.

8 Q Anything else?

9 A Well, there are other effects,
10 but those were the main ones that I think that they
11 were interested in.

12 Q What are the other effects?

13

14 MR. FOWLER: The other peripheral
15 nervous system effects? Is that right? Is that your
16 testimony?

17

18 Q You said there were other
19 effects, Doctor. I'm asking you what other effects
20 are you referring to?

21 A Well, you want me to list all the
22 effects, potential effects of nicotine?

23 Q Yes.

24 A In what system?

25 Q The human body.

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1 A Well, there are potential effects
2 on the GI tract. There are potential effects in the
3 cardiovascular system. There are central nervous
4 system effects, potentially. Again, it depends on
5 the dose. It depends on the situation. There are
6 other effects in animals demonstrated.

7 Q Dr. Gullotta's, he did research
8 on the optimal dose of nicotine, correct?

9

10 MR. GADDES: Object to the form.
11 MR. FOWLER: Object to the form.

12

13 A I have no knowledge that Dr.
14 DeNoble--

15 Q Not Dr. DeNoble, Dr. Gullotta?
16 A No.

17

18 MR. FOWLER: Same objection.

19

20 A To my knowledge, Dr. Gullotta
21 never did such work.

22 Q And you reviewed all of his
23 documents?

24 A Yes, I have.

25 Q He did a memo where he bragged

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1 about the fact that he has ascertained what the
2 optimal nicotine level was?

3
4 MR. FOWLER: Object to the form of
5 the question.
6

7 Q Have you read that memo?
8

9 MR. FOWLER: Object to the form.
10

11 A I have read all his memos.
12 Q Have you read the memo where he
13 talks about the optimal nicotine levels?

14 A I'm not sure I understand what
15 you're referring to.

16 Q It's your understanding that Dr.
17 Gullotta did not do any research wherein he
18 ascertained and opined as to what nicotine level was
19 for a smoker?

20
21 MR. FOWLER: Object to the form of
22 the question. There is no basis or foundation.
23

24 A And I didn't hear all of it.
25

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1 MR. HOAG: Can the Court Reporter
2 repeat it?
3

4 NOTE: The last question was read
5 aloud by the Reporter.
6

7 Q What the optimal nicotine level
8 was for a smoker.
9

10 MR. FOWLER: Object to the form of
11 the question; also, on the basis of foundation.
12

13 A Well, I have a number of
14 responses to that. I don't-- Optimal for what, is
15 one. Number two, Dr. Gullotta did a variety of
16 studies at which he found different levels of
17 nicotine to be more effective than others. There is
18 no question about that. But, as he went up in
19 nicotine, he also found that there was a decrease in
20 liking. So, I don't understand what you mean by
21 optimal, and I don't know what effect we're actually
22 discussing here.

23 Q Well, Dr. Gullotta found, if he
24 went over 1.2 milligrams of nicotine there was an
25 increase in liking, correct?

1
2 MR. FOWLER: I'm going to object
3 on the basis of foundation, again.

4
5 Q Well, if you don't know, just
6 tell me.
7 A As I recall, he did some levels
8 at 1.34, and then above that, like 2.5, he did not
9 find that liking was as good. But that is, you know,
10 that's a questionnaire.

11
12 MR. FOWLER: Maybe this would be a
13 good time to take a short break, and we can go and
14 check and see if we got those FAXes in.

15 MR. HOAG: Sure.

16
17 NOTE: At this point, a recess was
18 had from 4:02 p.m. to 4:19 p.m., whereupon the
19 deposition proceeded, viz:

20
21 BY MR. HOAG: (Continuing)

22 Q Okay. Now, referring to
23 Plaintiff's Exhibit 2, we have been talking about
24 that for a few minutes here, prior to the break.
25 Does this particular document

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1 dated December 1st, 1978, this was copied to Dr. Dunn
2 and also Dr. Levy, correct, among others?

3 A Yes, that's correct.
4 Q And, you've already identified
5 Dr. Dunn and Dr. Levy, you've briefly mentioned her,
6 but can you identify who she is?

7 A Well, currently she's a Senior
8 Vice-President in Philip Morris USA.

9 Q Do you know what her position was
10 back in December 1st of 1978?

11 A I really don't think I'll get
12 that accurately, but I think I can describe that she
13 was a scientist. She has a Ph.D., and she was a
14 scientist working in the laboratory in R and D.

15 Q Do you know why she would have
16 been copied this memo that's an outline of what has
17 been termed the Nicotine Program?

18 A I believe that she was,
19 potentially, one of the first people to be involved
20 in setting up some of the screening tests for the
21 compounds. So I --

22 Q Did you ever do any work on the
23 Nicotine Program?

24 A I'm sorry. Did you ask if I did
25 or did she?

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1 Q Did you ever do any work on the
2 Nicotine Program?

3 A I was involved in it in the
4 latter part of the '80s. I did attend some of the
5 meetings, yes.

6 Q Now, has Philip Morris ever
7 successfully developed a nicotine analogue?

8 MR. FOWLER: Object to the form.

9
10 A Well, Philip Morris, as is
11 indicated in this memo and others, within the
12 documents that I provided for you, there are a number
13 of nicotine analogues that were synthesized, if
14 that's what you mean.

15 Q Well, no. What I meant by
16 successful was, have they developed a nicotine
17 analogue that actually can replace the nicotine in
18 cigarettes?

19
20 MR. FOWLER: Object to the form.

21
22 A No.

23 Q And why is that, if you know?

24 A Well, based on the tests and the

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1 data that we have thus far, there was no other
2 compound that completely replaces nicotine.

3 Q You mean, for example, did you
4 find a compound that replaces the central nervous
5 system effects of nicotine?

6
7 MR. FOWLER: Object to the form.

8
9 A Obviously, with these screening
10 tests, there was, obviously,-- Well, let me back up
11 here a little bit. Based on the over 100 compounds
12 and the screening test data that we do have, there
13 was no indication that we found a compound that would
14 have no peripheral effects, but yet be anywhere like
15 nicotine in other aspects, sensory aspects, et
16 cetera. So, therefore, the data that we had on some
17 of the compounds and the purported data that we have
18 on one of the analogues that you're probably
19 referring to called two prime methyl nicotine. The
20 actual screening data in some of the blood pressure
21 studies on that particular analogue indicated a
22 biphasic response to blood pressure or on blood
23 pressure and, therefore, it did have some peripheral
24 effects at some doses.

25 Q Well, the introduction of this

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1 document, which is the second page, Plaintiff's
 2 Exhibit 2, says, "Nicotine a powerful pharmacological
 3 agent with multiple sites of action is the most
 4 important component of cigarette smoke."

5 Do you agree with that?

6
 7 MR. FOWLER: Object to the form.
 8

9 A Well, I believe that nicotine is
 10 an important component of cigarette smoke, and I
 11 think our Denic experience provides some evidence
 12 that nicotine has some important sensory attributes.
 13 Other experimental data with the National Cancer
 14 Institute, in terms of flavoring cigarettes, also
 15 indicated that nicotine was an important flavorant,
 16 so I do believe nicotine is important.

17 Q Do you believe it is important
 18 only as a flavorant? Is that what you're saying?

19 A I think that is a major part of
 20 nicotine's importance in cigarettes, yes.

21 Q Well, the author of this
 22 particular document that you rely on, Dr. Dunn, he's
 23 saying nicotine is a powerful pharmacological agent
 24 with multiple sites of action. Do you agree with
 25 that, that it's a powerful pharmacological agent with

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1 multiple sites of action?

2 A Yeah. Now, if you look at this
 3 as a scientist, and Dr. Osdene was a scientist, and
 4 Dr. Osdene had a lot of experience in the
 5 pharmaceutical industry, when you look at a compound,
 6 and you look at it in a number of different assay
 7 systems under different doses, you will see that. The
 8 question here is nicotine and whether or not it can
 9 be powerful. In that instance, in broad instances,
 10 sure it can, especially in a pure form.

11 But, that is very different from
 12 nicotine within the context of a cigarette and,
 13 obviously, smokers do not exhibit powerful effects of
 14 nicotine. If you read further down in that second
 15 paragraph on that first page, you will now see, we
 16 still do not understand the roll of nicotine in the
 17 smoking habit. So, I think what this document
 18 represents is some of the basic reflections of what
 19 was known at the time regarding nicotine. But, then,
 20 it clarifies a reflection of what is known about
 21 smoking.

22 Q The second sentence in that
 23 introduction says, nicotine, and an understanding of
 24 its properties are important to the continued
 25 well-being of our cigarette business since this

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1 alkaloid has been cited often as "the reason for
2 smoking," and theories have been advanced for
3 "nicotine titration by the smoker."
4 Now, do you agree that nicotine
5 is the reason for smoking?
6 A No, I don't.
7 Q Do you agree that there is such a
8 thing as nicotine titration?
9 A I believe it can be demonstrated.
10 Q And what is nicotine titration?
11 A Nicotine titration would reflect
12 an individual attempting to smoke a cigarette in such
13 a way that they get a consistent amount of nicotine.
14 The fundamental question on that is, is that I am not
15 at all surprised that a person that is used to a
16 certain level of tar in a cigarette would smoke a
17 cigarette in such a way that they would get the same
18 taste.
19 Q You are aware that nicotine
20 increases the dopamine level, correct?
21
22 MR. FOWLER: Object to the form.
23
24 A Well, that's a very complicated
25 situation. I'm aware that many things increase

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1 dopamine levels, including things that are not
2 pharmacological in nature.
3 Q Cocaine increases the dopamine
4 level, too, correct?
5 A As I said, I'm aware that many
6 things increase dopamine or can increase dopamine,
7 including things that aren't pharmacological.
8 Q One of the things that increases
9 dopamine is cocaine, correct?
10
11 MR. FOWLER: But, she wasn't
12 finished with her answer.
13
14 A Sir? Yeah. Sir?
15 Q We're not going to get finished
16 by 5:45, but I'll be glad to listen to all the
17 answer.
18
19 MR. FOWLER: Okay.
20
21 A Isn't that what we're here for?
22 Q It is.
23
24 MR. FOWLER: Yes. Go ahead and
25 finish your answer.

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1
2 A Okay. Dopamine increases our
3 reflection of certain subjective feelings in the
4 brain, and the bottom line here is that many, many
5 things can increase dopamine, even watching a movie
6 with certain scenes in it could increase dopamine,
7 potentially.

8 So, you know, the insinuation
9 that there is something special about nicotine, in
10 this light, I think, we would have to examine it much
11 more closely in terms of what the context of that
12 increase is.

13 Q You're aware that nicotine also
14 increases the serotonin level, correct?

15 A Serotonin level of what?

16 Q The serotonin level of the human
17 being once they take a puff on a cigarette containing
18 nicotine.

19 A I would have to go back and look
20 at the literature to see if that was in the context
21 of the commercial cigarette.

22 Q You're not really claiming to be
23 an expert on the effects of nicotine, correct?

24
25 MR. FOWLER: Object to the form.

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1
2 A I don't -- I don't -- I think
3 you're asking two different questions. I think much
4 of the literature reflects the effects of nicotine,
5 and I think what you're really trying to ask are
6 effects of nicotine in the context of smoking, and I
7 just have to caution that those are two very
8 different things. The other variable that we need to
9 be worried about is the effects of nicotine in
10 animals versus the effect of smoking in humans. So,
11 you know, experimental studies that use high doses of
12 a pure compound, you can demonstrate a lot of things
13 that aren't relative to a human smoking situation.

14 Q So, do you consider yourself to
15 be an expert on the effects of nicotine on humans?

16 A Let me put it this way.

17 Q Human smokers.

18 A Let me put it this way. I
19 certainly know more than the average person. And I
20 have certainly worked in the area, and I have read a
21 lot of materials about it. And I am a pharmacologist
22 by training, and I have had graduate courses on the
23 autonomic nervous system that, obviously, have to do
24 with some of the, or have used nicotine in some of
25 the studies to look at the actual effects on that

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1 nervous system. So, in that sense, I think I could

2 certainly offer some information on the topic, yes.
3 Q Do you know what MAI is?
4 A Yes, monoamine oxidase.
5 Q Do you know whether there is
6 anything in cigarettes that is an MAO inhibitor?
7 A I can't recall offhand.
8 Q What would an MAO inhibitor do?
9 A It would probably decrease the
10 metabolism.
11 Q When things like serotonin or
12 dopamine are released, a mild inhibitor would have
13 some effects on that, wouldn't it, or do you know?
14 A I'm not sure I understand your
15 question.
16 Q Well, do you know whether --
17 A Did you say a Mao inhibitor?
18 Q MAO.
19 A Oh. Thank you.
20 Q Mao, I guess he used to be the
21 Chairman in China?
22 A Yeah, I think that's right. I
23 never heard that said that way from--in a scientific
24 sense.
25 Q You know, I'm an attorney. I

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1 look at M-A-O. I know what the word is, and I just
2 put it altogether. It is humorous.
3 So an MAO inhibitor, what effects
4 would it have on dopamine level, if any?
5 A What effects would it have on
6 dopamine?
7 Q Yes. For example, if, in fact,
8 the nicotine increases the release of dopamine, and
9 there is also something in cigarette smoke such as an
10 MAO inhibitor, what effects would those two things
11 have, if you know?
12 A Well, obviously, one of the first
13 things would be to determine if the component of
14 smoke, and I'm not sure what you're referring to,
15 actually reaches the monoamine oxidase, so you would
16 have to determine that. So just the fact that
17 something isn't smoked doesn't mean it gets to the
18 brain or doesn't mean it gets to that particular
19 enzyme in any appreciable concentration. So, your
20 question is extremely complex, and I am not sure I
21 understand what you mean.
22 Q It's a question that I've asked
23 to numerous people that have been listed by the
24 tobacco industry, including Philip Morris' experts in
25 pharmacology of nicotine. And, would it surprise you

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1 to know that they haven't answered that question and
2 understood it?

3
4
5 MR. FOWLER: Well, you know,
6 objection to the colloquy. It also assumes facts not
7 in evidence.
8

9 Q You can answer.
10 A I didn't know there was a
11 question.

12 Q I said, would it surprise you to
13 know that those people who have been listed as
14 experts in the pharmacology of nicotine have heard
15 that question and answered it?

16
17 MR. FOWLER: Same objection.
18

19 A Would it surprise me? I was
20 addressing a question as to what was in smoke. So,
21 yeah, it might surprise me.

22 Q Approximately, how long does it
23 take for nicotine, once inhaled, in a cigarette, by a
24 human being to get to the brain?

25 A Some of the studies that have

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1 been done indicate about eight to ten seconds.

2 Q So, you are aware that,
3 obviously, you're aware from this document,
4 Plaintiff's Exhibit 2, that Dr. Osdene considers
5 nicotine to be the most important component of
6 cigarette smoke, correct?

7 A No.

9 MR. FOWLER: Object to the form.

10
11 Q You're not aware of that?

12 A No.

13 Q That he is the author of this
14 document, isn't he?

15 A Yes.

16 Q And, the first sentence of the
17 document says, "Nicotine, a powerful pharmacological
18 agent with multiple sites of action is the most
19 important component of cigarette smoke," correct?

20 A Yes, that's what it says.

21 Q So, you're aware that Dr. Osdene
22 is of the opinion that nicotine is the most important
23 component of cigarette smoke, correct?

24 A Look, in the context of this,
25 nicotine is a major component of cigarette smoke, and

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1 I am not sure I understand exactly what Dr. Osdene
2 means by important.

3 Q Have you ever asked him?

4 A No and--
5 Q But you do rely on this document,
6 correct?
7 A Yes, I did. And, frequently, I
8 think this is a very good and broad overview of some
9 of the considerations that are in the literature, and
10 I would expect that individuals and scientists within
11 Philip Morris should reflect what was in the
12 literature and have a diversity of opinion and --
13 Q You are also aware that Dr. Dunn
14 considers nicotine to be the most important component
15 of cigarette smoke, correct?
16 A I'm not sure I understand what
17 you're referring to.
18 Q Let me rephrase. Are you aware
19 that Dr. Dunn considers nicotine to be the most
20 important component of cigarettes?
21
22 MR. FOWLER: Object to the form.
23
24 A I think Dr. Dunn has certainly
25 looked at nicotine and has thought it was important.

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1 I think that, at various times, he's expressed that
2 importance in a variety of different statements.
3 Q Are you aware that Dr. Dunn
4 considers nicotine to be the most important component
5 of cigarette smoke?
6
7 MR. FOWLER: Object to the form.
8
9 A I'm not -- I don't know if that
10 quote, I can find that quote or recall that quote.
11 Q Have you ever discussed this with
12 Dr. Dunn?
13 A No, I have not.
14 Q Now, I'd like to refer to -- I'm
15 not going to mark it, or I don't need to mark it
16 anyway, a document that's among the documents you
17 relied on called "Puffing Behavior on High and Low
18 Delivery Cigarettes." If you can find that one, that
19 one is Bates stamped number 1000354257, and it goes
20 to 277.
21 A It has a black front to it.
22 Q Right, it does.
23 A Okay. We have it.
24
25 MR. GADDES: Okay. We have it.

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1 MR. FOWLER: She's got it.
2
3 A I've got it.
4

5 MR. GADDES: We also have your
6 FAX.
7 MR. HOAG: Okay. Good.
8
9 Q Okay. Now, referring to the label
10 in the right hand corner as Page 2, although you have
11 to go about five pages in to see it.

12 A Two what?
13 Q Page 2 of the document that is
14 titled "Puffing Behavior On High and Low Delivery
15 Cigarettes."
16 A Yes, I see it.
17

18 MR. FOWLER: That page begins
19 "Accordingly."

20
21 Q Right. It begins "accordingly."
22 Referring to the second paragraph
23 of that page. It says, Considerable evidence from
24 sales figures and from studies of smoke exposure by
25 Dunn (1968, Dunn, Schou and Duggins) (1973) and Ryan

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1 (1970) suggests that decreases in nominal tar and
2 nicotine delivery lead to increases in number of
3 cigarettes smoked per day and that increases in
4 nominal deliveries produce consumption decreases.

5 Do you see that?

6 A Yes, I see that paragraph.

7 Q And, are you familiar with those
8 studies that are cited in that paragraph?

9 A I believe I have them, and I
10 believe I've read them at one time. I don't think I
11 can remember all aspects of them, no.

12 Q Well, you're aware that sales
13 figures for the sale of cigarettes show that the
14 number of cigarettes people are smoking have
15 increased as the tar level has decreased, correct?

16 A Well, sales figures are not, do
17 not reflect per-person sales, so --

18 Q What sales figures were they
19 using when they did these studies that suggest
20 decreases of nominal tar and nicotine delivery lead
21 to increases in number of cigarettes smoked per day
22 and that increase in nominal delivery produce
23 consumption decreases?

24 A I really don't know. I know-- All
25 I can tell you is, best technology we have today, we

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1 cannot ascertain individual by individual what the
2 sales figures are.

3 Q Okay. Now, as far as the
4 documents that I have FAXed to you --
5

6 MR. FOWLER: Can we put that
7 document that we just discussed away now?
8 MR. HOAG: Yes.
9 MR. FOWLER: Okay. Thank you.
10 I'll hand the documents that you FAXEd to us to the
11 Court Reporter, but I will tell you that the
12 newspaper article, I can see that there is a spot on
13 it that has an asterisk and kind of like a little
14 paren on it, that's completely black and we can't
15 really read it.

16 MR. HOAG: That's completely
17 black, huh?

18 MR. FOWLER: Well, virtually so.
19 The Court Reporter can confirm that you can't read
20 the language on it, except for maybe a couple of
21 words in the first paragraph or two.

22 MR. HOAG: Okay. I'll try to deal
23 with that.

24

25 Q The--

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1

2 MR. FOWLER: You've got the
3 proposed study by Levy and then the one at the top
4 "Ryan/Dunn Alternative."

5 MR. HOAG: Yes, please mark the
6 exhibits.

7 The proposed study by--

8 MR. FOWLER: By Levy.

9 MR. HOAG: Well, first, let's
10 start with the Ryan/Dunn article, I mean document,
11 which is,--at the bottom it says Plaintiff's Exhibit
12 Number 4, and you can see where it ends. It ends on
13 Bates stamp number 7890, last four numbers, and it's
14 eleven pages.

15 MR. FOWLER: Yes, we've got that.

16 MR. HOAG: If we can mark that as
17 Plaintiff's Exhibit 3.

18 And then the proposed study by
19 Levy as 4.

20 MR. FOWLER: Okay.

21

22 NOTE: The above-referred-to
23 document with Ryan/Dunn Alternate written at the top
24 was marked and filed as ELLIS DEPOSITION EXHIBIT
25 NUMBER 3, and is attached to the back of the original

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1 of said deposition transcript.

2 Also, at this point, a copy of a
3 newspaper article from USA Today was marked and filed
4 as ELLIS DEPOSITION EXHIBIT NUMBER 4, and is attached
5 to the back of the original of said deposition
6 transcript.

7
8 MR. HOAG: I'm sorry. The
9 newspaper article as 4 and the proposed study by Levy
10 as 5. Sorry.

11 MR. FOWLER: Okay. So, this is 3,
12 4, 5.
13

14 NOTE: An Inter-Office
15 Correspondence dated November 3, 1977 was marked and
16 filed as ELLIS DEPOSITION EXHIBIT NUMBER 5, and is
17 attached to the back of the original of said
18 deposition transcript.
19

20 MR. FOWLER: All right. We have
21 all those marked now, John. And, just for the
22 record, I would object to the use of Exhibit 4--clear
23 hearsay, and it's not entirely legible, although I'm
24 not going to say that you can't or object to your
25 discussing it with the witness, but I would preserve

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1 any objections as to relevancy and preserve hearsay
2 objections, et cetera.

3 MR. HOAG: Okay. Those,
4 obviously, are all preserved. Before we get into the
5 document,-- Are they marked now?

6 MR. FOWLER: Yes.

7 MR. HOAG: Before we get into
8 them, I just want to identify for the record the
9 document that I was asking questions about that is
10 not marked. That's called Puffing Behavior On High
11 and Low Delivery Cigarettes, and it is written by
12 Brian. There is a date of September, 1973 on it, and
13 it contains Bates stamp numbers 1000354257 through
14 10004277, and I guess that's enough identifying
15 information for that.
16

17 BY MR. HOAG: (Continuing)

18 Q Now, as to what's been marked now
19 as Plaintiff's Exhibit 3, that's the document that,
20 at the top, in someone's handwriting it says Ryan/
21 Dunn.

22 Do you see that?

23 A Yes.

24 Q Have you ever seen this document
25 before?

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1 A I believe I have quite awhile
2 ago.
3

4 MR. FOWLER: You know and, John,
5 let me just ask. There are a number of handwritten
6 comments and underlinings, and so forth. Do you know
7 if that's how it was produced from the Plaintiff,

8 from the Philip Morris files to Plaintiffs?
9 MR. HOAG: I can say that,-- Let
10 me look at it.

11 MR. FOWLER: Because, frankly, I
12 have seen a copy of this document sometime ago, and I
13 don't recall all this handwriting on it, although, I
14 certainly don't have a photographic memory.

15 MR. HOAG: With the exception of
16 underlining on Page 4 and some underlining on Page 5,
17 underlining on Page 6 and someone underlining on
18 Pages 7 and 8, and underlining at the top of Page 10,
19 the marks that are on there were marks that were
20 there at the time we received the documents. So, --

21
22 MR. FOWLER: Okay. So some of
23 those marks are yours that you just identified?

24 MR. HOAG: The underlining, yeah,
25 I did the underlining that I just identified. The

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1 rest of it was there on the document prior to the
2 time we received it.

3 MR. FOWLER: Now, and just for the
4 record, I really can't state, you know, whose
5 handwriting is what and whether any other handwriting
6 that's on that document might have been added
7 elsewhere. But, you can go ahead and question the
8 witness on the document.

9
10 BY MR. HOAG: (Continuing)

11 Q Okay. You said you recalled
12 having seen Plaintiff's Exhibit 3 before, is that
13 correct?

14 A Yes.

15 Q When do you recall having seen it
16 before?

17 A It's been quite some time. It's
18 probably well over a year.

19 Q What were the circumstances under
20 which you saw this document?

21 A I don't recall.

22 Q Is this part of your file of
23 documents from Dr. Dunn?

24 A I really don't recall.

25 Q Referring to Page 4 of the

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1 document, do you see Page 4?

2 A Yes.

3 Q And, there is a 1 and a 2 at the
4 bottom of Page 4. Do you see that?

5 A I see 1 and 2.

6 Q Okay. Now, there is underlining
7 on one and two, and that underlining, I placed the
8 underlining on there. Now, as to #1, it says the

9 index of smoking level in health surveys as
10 determined by the number of cigarettes people say
11 they smoke is a very unreliable measure of actual
12 smoke intake.

13 Do you agree with that?

14 A There are certain elements I
15 agree with, yes, that, number one, we understand from
16 reporting of the numbers of cigarette smoked from
17 individuals, even in the context of epidemiological
18 studies, is not a reliable indicator. I agree that
19 that is not.

20 Q And number two says, "The
21 prediction of smoker intake from the FTC tar value
22 for the brand smoked is also very unreliable." Do you
23 see that?

24 A I see the sentence.

25 Q Do you agree with that?

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1 A Well, yes and no in the sense
2 that the FTC tar method was never meant to mimic
3 smoker, what the smoker gets, that is a correct
4 statement.

5 I would not agree with the word
6 unreliable. I think the FTC test was developed and is
7 very reliable for what it was intended to do, and
8 that was to compare cigarettes. All of this has been
9 discussed very thoroughly when the FTC came out with
10 the method.

11 Q Do you agree that it's an
12 unreliable predictor of smoker intake?

13 A I agree that the FTC test was
14 never intended or designed to predict smoker intake
15 and that smoking behavior is highly variable, both
16 between smokers and within smokers.

17 Q And, do you agree that the FTC
18 tar value is an unreliable predictor of smoker
19 intake?

20
21 MR. FOWLER: Objection. Asked and
22 answered.

23
24 A Again, I'm trying to separate out
25 the issues here. The FTC test is not an unreliable

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1 test for what it was intended to do. The FTC test was
2 never intended to measure smoker intake.

3 Q Now, this document at the top of
4 Page 1, it says "Ryan/Dunn Alternate," and it's in
5 handwriting. And, it also says "Fall '69,"--

6
7 MR. FOWLER: '69.

8
9 Q Fall '69, correct? It's in

10 handwriting.
11 A Yes, it says "Fall '69."
12 Q Do you recognize any of the
13 handwriting?
14 A I can't say I do, no.
15
16 MR. FOWLER: Some of that
17 underlining looks like yours, though, John.
18
19 Q That's very perceptive. Page 5,
20 underlining on Page 5 at the top, that's my
21 underlining, and it says, "From the study of smoke
22 intake, we developed the hypothesis that a smoker
23 will tend to seek his own level of smoke intake,
24 whether he smokes filter cigarettes, long cigarettes,
25 or skinny cigarettes," and that's the end of that

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1 sentence.
2 Do you agree with that?
3
4 MR. FOWLER: Object to the form.
5
6 A That they developed a hypothesis?
7 I would have to agree that they obviously state that
8 they developed a hypothesis.
9 I don't know whether or not it's
10 a skinny cigarette, a long cigarette or a filter
11 cigarette, what that has to do. So, I'm not sure if
12 I really understand from this sentence what the
13 hypothesis was.
14 Q Well, the next sentence says, "A
15 study to test this hypothesis has just been
16 completed. We had about 150 filter smokers volunteer
17 to smoke only the cigarettes we gave them for six
18 weeks," and that's the end of those two sentences I
19 just read.
20
21 MR. FOWLER: You know, John, if
22 you don't mind, if the witness could just take a
23 moment to read through the relevant portions of this
24 document, it might help out with the examination.
25

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1 Q Feel free. Whatever you do-- You
2 might want to read the whole document. That's fine.
3 Let me know.
4 A Well, do you have a question on
5 the table right now?
6 Q Well, I did, but if you need to
7 read the document, you can. Do you need to read it?
8 A I think I understand what's
9 certainly in here about this study.
10 Q Are you familiar with the fact

11 that this study was done by Philip Morris?
12 A I don't recall one with skinny
13 cigarettes, I'll be frank about that. That's what's
14 confusing me. But I do recall studies that I've read
15 about that relate to when people change cigarettes,
16 whether or not they change their smoking behavior.
17 Yes, I'm aware of those kinds of studies.

18 Q And are you aware of this
19 particular study that the authors are saying, the
20 authors of this document are saying has just been
21 completed?

22 A As I said, what's getting me here
23 is skinny cigarettes. I just don't recall that in
24 some of the other studies. I'd have to go back and
25 look.

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1 Q Do you recall a study where there
2 were about a 150 filter smokers who volunteered to
3 smoke only the cigarettes that were given to them for
4 six weeks?

5 A Do you recall that?

6 Q Specifically, no.

7 Q Do you want to read that whole
8 paragraph? I don't mean to read that whole paragraph
9 out loud. But if you can read that whole paragraph,
10 then I'll ask you a question.

11 A Okay.

12

13 NOTE: Witness complying.

14

15 A Okay.

16 Q Okay. Now, you've read the whole
17 paragraph. Does that refresh your recollection as to
18 whether or not you're familiar with any study like
19 that?

20 A As I indicated before, I am
21 familiar with the study where they increased the tar
22 and then they decreased the tar and they looked at
23 smoker behavior. I just didn't recall the skinny
24 cigarette part, okay.

25 Q At the bottom of the second

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1 paragraph, there is a portion underlined, and I
2 underlined that. It says, it would appear that
3 smokers do modify their smoking habits in order to
4 maintain a preferred intake level.

5 Do you agree with that?

6

7 MR. FOWLER: Object to the form.

8

9 A Based on my knowledge of studies
10 that have been done, smokers are very particular
11 about the taste of their cigarette. And, when you

12 change from one cigarette to another cigarette,
13 whether it's up or whether it's down in tar, the
14 strength of the cigarette is associated with the
15 amount of tar, and the smoker will adjust
16 transiently, especially, their intake, to mimic the
17 taste of their normal cigarette or normal brand.

18 And, in many cases, what happens
19 over time is that that changes then, and they adjust
20 to a normal--normal level of smoking that's
21 consistent with their historical level. It's much
22 like adjusting to or going from regular milk to skim
23 milk. It's quite a change in the beginning, but,
24 after time, you would not want to go back to regular
25 milk. And that's a very, very good analogy to, I

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1 think, the taste issues that are reflected in this
2 study.

3 Q Do the authors say in this
4 document anywhere that the individuals stop
5 compensating at some point?

6 MR. FOWLER: The question is
7 concerning this document?

8 MR. HOAG: Yes.

9 Q In this document, do they say
10 that anywhere?

11 A Again, I haven't really fully
12 read the document to tell whether or not they said
13 that. But, I will represent I have read other
14 studies that are similar to this, that indicate that
15 the change in smoking behavior is transient.

16 Q And what specific study are you
17 referring to?

18 A Well, there are a number of
19 studies at Philip Morris, for example, that I recall,
20 and I mean I can't give you the session numbers or
21 whatever right now, right off the top of my head, but
22 there are studies that exist on this topic. There
23 are also studies in the literature.

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1 Q Are any of the studies that
2 you're referring to among those that have been
3 provided to me that you're relying on today for
4 purposes of this deposition?

5 MR. FOWLER: You're talking about
6 the external literature that was provided?

7 MR. HOAG: No. Right now I'm
8 talking about documents that have been provided to
9 me. Are any of them among the documents that have
10 been provided to me?

11 MR. FOWLER: Well, he's talking

13 about Philip Morris documents right now.

14 A I'm not sure if that's in there.

15 Q Can you check?

16 A Have you got the notebooks?

17

18 MR. FOWLER: It will take us
19 awhile. There are sixty-some odd documents in here.

20

21 A Well, I did find one reference is
22 Wakeham to Seligman, February 22, 1979. And the
23 second page, it says, "The titration hypothesis has
24 not found support."

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1 Q Wakeham/Seligman, February--

2 A 22nd, 1979, Bates 1003293238 and
3 39. Another one is written by Shou and Jones, August,
4 1974, Bates 1000356550, and it's a number of pages.

5 It goes to 576. At the top of Page 2, "In the present
6 study, deliveries decrease from smokers at custom
7 levels. However, we found no evidence of any such
8 regulatory behavior, i.e., they failed to compensate
9 for the decreased availability of tar and nicotine by
10 changing either the number of cigarettes which they
11 smoked or the amount of rod consumed from each
12 cigarette."

13 Do you want all references?

14 Q All the titles and dates of
15 documents that you're looking at in this group that
16 were provided to me.

17

18 MR. FOWLER: We're going to object
19 to asking the witness to go through these documents
20 one by one. I know you're busy, John, but I have to
21 object to her going through and doing what you could
22 have ascertained by going through these documents.

23 MR. HOAG: I can't ascertain what
24 her opinion is of those documents. I want her to tell
25 me.

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1 MR. FOWLER: You're asking her to
2 name every document in the group that supports the
3 proposition or demonstrates the proposition, and,
4 again, you could have done that by going through the
5 documents.

6 MR. HOAG: Well, I might not agree
7 with her. I want to know what she thinks. I know
8 there's many things I don't agree with her on
9 already. So, you know, I guarantee what I pick out
10 wouldn't be what she would picked out.

11

12 Q There are references to the issue
13 in Smokers Psychology Research by H. Wakeham,

14 November 26, 1969, Bates 1000273742. There are a
15 number of different studies on intake puffing
16 behavior on high and low nicotine cigarettes, which
17 is the one I think you didn't want to mark.

18
19 MR. FOWLER: That's correct.
20 That's the one we discussed earlier.

21
22 A Right. 1000354258 is relevant to
23 the issue, "Does the Smoker Compensate for Changes in
24 Delivery in Order to Regulate Intake," that's also
25 Shou 1000356550. I think some information on the

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1 importance of nicotine is present in documents
2 2051001043, that's "Consumer and Sensory Research of
3 Denic." And, the other one is 2001260246, "Testing
4 of Denicotinized Cigarettes," in which--that's June
5 10th, 1986--in which there is, I think, a very good
6 discussion that basically lays out all of the
7 hypotheses and theories regarding nicotine as it
8 relates to smoking behavior.

9
10 MR. FOWLER: John, since you can't
11 see what's going on here, she's been through all the
12 documents now, and I think she's identified the ones
13 that she can easily identify at this point in time to
14 respond to your query.

15
16 Q Well, have you looked through all
17 of them and satisfied that out of those that you
18 identified as relying on--that you provided to me,
19 those are the ones that back up your opinion
20 concerning smoker compensation?

21 A Yes. Those are certainly the
22 ones that are the most relevant. It doesn't mean
23 that there wouldn't be other single statements in
24 some of the others that might pertain, but these are
25 certainly where most or a lot of the data comes

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1 from.

2
3 MR. FOWLER: And the record just
4 needs to reflect that the Doctor went through these
5 documents fairly quickly and identified the ones that
6 she could, given the circumstances.

7
8 Q Well, if you need to take more
9 time, that's okay with me, Doctor, if you haven't had
10 enough time to do this.

11 A Okay. Well, we can stay here
12 while I reread every word, if you want.

13 Q Well, if you think there's other
14 documents that are the basis for your opinion on

15 compensation that you haven't identified, --

16
17 MR. FOWLER: They were identified
18 and sent to you one week ago, and that's sufficient
19 identification. And why don't we just move on with
20 some relevant questioning?

21
22 A Well, there are other documents
23 in the literature that I do rely on.

24 Q Pardon me?

25 A There are other documents in the

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1 literature, and you have that bibliography, I
2 believe.

3 Q My question isn't about the
4 bibliography. It's about the documents that you have
5 provided to me that are Philip Morris internal
6 documents.

7 Are there any other Philip Morris
8 internal documents that have been provided to me for
9 your deposition that support your opinion concerning
10 smoker compensation?

11
12 MR. FOWLER: Look, she's gone
13 through them as well as she's going to right now,--
14 MR. HOAG: But, now I'm asking--
15 MR. FOWLER: --unless you
16 stipulate that you can't read, then we're going to go
17 on with additional questioning. Will you stipulate
18 that you can't read? You read the documents. We
19 sent them to you at your request a week ago. Let's
20 move on.

21 MR. HOAG: I wondered how long it
22 was going to take you to get nasty.

23
24 Q Could you answer the question,
25 please, Doctor.

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1
2 MR. FOWLER: She's answered it
3 three times.

4 MR. HOAG: No. You implied that
5 she hadn't actually had time to look through these
6 and identify what I had asked her to identify.

7 MR. FOWLER: No. I didn't imply
8 anything of the sort.

9 MR. HOAG: If that's true, I want
10 her to have time to do that.

11
12 Q So, are these all, are those
13 documents that have been provided to me that are
14 Philip Morris internal documents that you rely on for
15 the purposes of this deposition, have you identified

16 all of those that support your opinions concerning
17 smoker compensation?

18

19 MR. FOWLER: You're talking about
20 the documents that you received a week ago that she
21 sent you? Is that what you're talking about, that set
22 of documents you haven't read yet?

23

24 Q Answer the question. You can
25 take all the time you want, Greg, venting if you

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1 would like. I'll wait here.

2 A I have gone through the
3 documents. I have looked through some of them, and I
4 have identified the ones that are clearly relevant;
5 that is, their major topic seems to be on the subject
6 that you requested.

7 Q Okay. Now, one of the documents
8 you mentioned as being in that category was the one I
9 previously showed you called, "Puffing Behavior on
10 High and Low Delivery Cigarettes," correct?

11 A Yes, that's correct.

12 Q In that particular document, do
13 you have that in front of you?

14 A No. We're getting it.

15 Q Okay.

16 A All right. I've got it.

17 Q The second paragraph of the
18 introduction of that set, The analytical differences
19 between the two test products were so great (14.6
20 milligrams FTC tar and 1.03 milligram nicotine per
21 cigarette versus milligrams FTC tar and 1.43
22 milligram nicotine per cigarette). It was suggested
23 that the reason panelists have not noticed the
24 strength differences must have been because they have
25 smoked the product differently. It says that,

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1 correct?

2 A That's what it says in the
3 introduction.

4 Q Okay. And what they found in
5 this was that they didn't really notice compensation
6 going on when people were switched from the 14.6
7 milligram product to the 20.7 milligram product,
8 correct?

9

10 MR. FOWLER: (Addressing the Court
11 Reporter) Would you read that question back?

12

13 NOTE: The requested question was
14 read aloud by the Reporter.

15

16 MR. FOWLER: Object to the form.

17
18 A You're reading a paragraph that's
19 in the introduction of the document. What is far more
20 relevant is to look at the results of the document
21 that's actually based on data. Frequently,
22 introductions are going to hypothesize some things up
23 front. So, if you look at the back of the document, I
24 think that better represents what this document
25 really means.

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1 Q Okay. What, in the back, do you
2 want me to--
3 A All right. Page 10--Page 10, last
4 paragraph, "We are left with the conclusion that
5 these cigarettes were smoked alike by our nine
6 panelists."

7 Q So, does that mean that the
8 people who were switched from the 14.6 milligram tar
9 cigarettes to the 20.7 milligram tar cigarettes did
10 not change their inhalation pattern, is that what
11 that means?

12 A I believe that's what "smoked
13 alike" means.

14 Q Okay. Now, Dr. Gullotta, who,
15 obviously, is a Philip Morris scientist and you have
16 collected documents that he has authored, he found
17 that one milligram of nicotine was the optimal
18 nicotine level for smokers, correct?

19
20 MR. FOWLER: Objection. Asked and
21 answered.

22 MR. GADDES: Object to the form.

23
24 A I have no recollection of what
25 you're talking about as it relates to Dr. Gullotta's

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1 studies.

2 Q Well, if, in fact, one milligram
3 of nicotine is the optimum nicotine level for
4 smokers, wouldn't that explain why the people that
5 were switched from the 14.6 to the 20.7 didn't change
6 their inhalation pattern?

7
8 MR. FOWLER: Objection to the
9 form.

10
11 Q And also why the people that
12 switched from the 20.7 didn't change their inhalation
13 pattern when they went to the 14.6?

14
15 MR. FOWLER: Object to the form.

16
17 A No.

18 Q Why not?
19 A Well, if all of, if everything
20 was based on nicotine, then, why would we even be
21 selling cigarettes that have less than a milligram of
22 nicotine? Why wouldn't we be increasing tar and
23 nicotine if, indeed, that is the only reason why
24 people smoked? It just does not make any sense.
25 What makes sense, if you look at

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1 the marketplace over the years and what's been done
2 to cigarette design to reduce tar and nicotine is
3 that what's important is that the amount of nicotine
4 in the tar, which is, you know, relevant, and it's
5 correlated--tar and nicotine go together--is what's
6 important to the smoker. In other words, it's the
7 relative amount of tar and nicotine together. If you
8 increase the nicotine relative to the tar too much,
9 it tastes different. If you decrease the nicotine
10 relative to the tar too much, it tastes different--
11 Denic is the example on that--and it really is
12 related to that.

13 Q Well, you know that the research
14 done by Philip Morris showed there is a minimal
15 acceptable dose of nicotine that smokers require in
16 order to keep smoking cigarettes correct?

17
18 MR. FOWLER: Objection.
19

20 A Absolutely not.
21 Q Now, referring to what's been
22 marked as Plaintiff's Exhibit 4, which is an article
23 from "USA Today" dated April 24th, 1997, called
24 "Smokers Are in Greater Danger, With Less Nicotine
25 Consumption Grows."

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1 Do you see that headline?
2 A That, I see that headline, yes.
3
4 MR. FOWLER: I'm, of course, going
5 to object to the use of this document. It's gross
6 hearsay.
7

8 Q Now, at the bottom of the, well,
9 not the bottom, but towards the bottom of the
10 article, it quotes Report Editor David Burns of the
11 University of California.

12 Do you see that where it says,
13 Report Editor David Burns of the University of
14 California?

15 A Yeah. I see the beginning of that
16 paragraph. The bottom part of it is blocked out.
17

18 MR. FOWLER: It didn't FAX well is

19 what she means.

20
21 A Yeah. You can't read it. Could I
22 comment on the headline?

23 Q The second page of the document
24 repeats, you know, the first page, do you see that?
25 A I see a second page. I don't know

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1 if it repeats.

2 Q And the second page?
3 A Okay. I've got you. Okay. I
4 see.
5 Q And the next to the last
6 paragraph on the second page says Report Editor David
7 Burns, do you see that?

8 A Yes, I do.
9 Q And that's clearer, isn't it?
10 A Yes, it is.
11 Q Now, that says Report Editor
12 David Burns of the University of California, San
13 Diego, says, "The increased risks may reflect greater
14 lifetime doses of smoke inhaled by current smokers."
15 Are you familiar with the report that was edited by
16 David Burns of the University of California, San
17 Diego, that this article is referring to?

18 A I would have to go back and look
19 at my files. His name does sound familiar. I might
20 be-- I think I have a report by a David Burns, but
21 I'd have to go and check.

22
23 MR. FOWLER: You know, in fairness
24 to the witness, you can only read about two-thirds of
25 this article, and she probably doesn't have enough

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Ellis - Direct

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1 data to respond.

2
3 A And I would like to comment about
4 "Smokers Are in Greater Danger, With Less Nicotine
5 Consumption Gross." Obviously, consumption is
6 decreasing and, obviously, tar levels in cigarettes
7 have decreased, and I don't agree, just based on
8 common sense, that that headline makes any sense.

9 Q Well, the headline isn't
10 referring to the total number of people smoking.
11 It's referring to the amount consumed by each smoker
12 who continues to smoke. You understand that,
13 correct?

14 A Yes and no. I think, obviously,
15 one is reflective of the other.

16 Q You understand that the people
17 who continue to smoke could be smoking more
18 cigarettes, while at the same time the overall
19 consumption of cigarettes could be decreasing? You

20 understand that, correct?

21 A Yes, but I--

22

23 MR. FOWLER: Object to the form.

24

25 A --and I think you would

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1 understand, that, you know, cigarettes used to be 40
2 milligrams, and I certainly don't see people smoking
3 one milligram cigarettes, 40 times more cigarettes.
4 So, again there is some common sense here that I
5 think, that's just not rational or consistent with
6 what is stated in this article.

7 Q The article summarizes an
8 analysis of data collected on 2,746,538 people from
9 between 6 and 26 years. Do you see that?

10 A I see that where it says that,
11 yes.

12 Q And, again, are you familiar with
13 this report where this analysis is contained, Report
14 Edited by Dr. Burns?

15 A I've already indicated to you I
16 recall the name. I'm not sure I have this specific
17 report. I can't even read the article.

18
19 MR. FOWLER: Just so the record is
20 clear, we're referring to an article dated April 24,
21 1997, in the learned treatise "USA Today."

22 MR. HOAG: And just so the record
23 is clear, Greg, I'm referring to a report that was
24 edited by Dr. Burns that I'm asking the witness if
25 she has a copy of, and I think she says she believes

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1 she does.

2 MR. FOWLER: Yes, but she doesn't
3 have it before her, and this is what "USA Today" says
4 about that article, and who knows whether that's
5 accurate. I certainly don't take "USA Today" as a
6 learned treatise. I don't think you probably do,
7 either.

8 MR. HOAG: Are you finished now,
9 Greg?

10 MR. FOWLER: For the moment.

11 MR. HOAG: Okay. Take your time.

12 I'm not in a hurry.

13

14 BY MR. HOAG: (Continuing)

15 Q Now, the summary of this report
16 that's contained in "USA Today," dated April 24,
17 1997, as Defense Counsel has pointed out, the summary
18 in the newspaper article says the risk for all
19 smoking-related causes of death, including lung and
20 other cancers, heart disease, stroke, emphysema, and

21 other lung diseases, have increased among both men

22 and women?

23 A Do you agree with that?

24

25 MR. FOWLER: Object to the form.

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1
2 A If you really read what that
3 paragraph is saying, it's really looking at diseases
4 that have been identified as diseases related,
5 statistically related to smoking. And what it's
6 saying is that these kinds of diseases are
7 increasing.

8 It doesn't-- It doesn't indicate,
9 and there are many different causes, potential causes
10 for disease. There are many different confounding
11 factors. And I think that one would have to sort out
12 all of the data and look at how and what controls
13 were put on this study before an adequate judgment
14 could be made.

15 Q At the bottom of the paragraph,
16 it says, at the bottom of the newspaper article in
17 "USA Today," it says, "Not only do current smokers
18 smoke more cigarette per day than before, women, in
19 the more recent studies, typically began smoking in
20 their teens. Women in the '50s and '60s studies
21 frequently started later in life." That's quoting Dr.
22 Burns.

23 Do you agree with that paragraph?
24 A I don't have any knowledge of
25 that, no.

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Ellis - Direct

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1 Q You don't know one way or the
2 other whether what's in that paragraph is accurate,
3 is that correct?

4 A That's correct, I don't.

5 Q And moving to paragraph, not to
6 paragraph but moving to document Plaintiff's Exhibit
7 Number 5, I think it's 5, it's the --

8
9 MR. FOWLER: Proposed study by
10 Levy.

11
12 Q Proposed study by Levy dated
13 November 3, 1977. Have you seen that before?

14 A Yes, I have.

15 Q Where have you seen that?

16 A Oh, I've seen it several times.
17 It's in my files. I have seen it as Plaintiff's
18 exhibits in some of the other cases. I have seen it
19 several times.

20 Q When you say it's in your files,
21 what do you mean?

22 A It means I have a copy of it in
23 my file cabinet, one of them--one of my many file
24 cabinets.

25 Q Is it among the documents that

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1 you conducted a search for all documents authored by
2 Dr. Dunn, is it in that file?

3
4 MR. FOWLER: Object to the form.
5
6 A I don't know if it is or not.
7 Q Okay. Now, this document from Dr.
8 Dunn, dated November 3rd, 1977, says I've given
9 Carolyn approval to proceed with this study, and any
10 questions, referring to Dr. Carolyn Levy, correct?

11 A Yes.

12 Q Now, he says you had a
13 conversation with Dr. Carolyn Levy regarding this
14 particular document, is that correct?

15 A Yes, that is correct.

16 Q And did she verify that she had,
17 in fact, been given approval by Dr. Dunn to proceed
18 with this study?

19 A She verified that she, indeed,
20 did do the study and that data were in her notebook.

21 Q And it goes on to say, if she is
22 able to demonstrate, as she anticipates, no
23 withdrawal effects of nicotine, we would want to
24 pursue this avenue with some vigor.

25 Now, did you find out from Dr.

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1 Carolyn Levy whether she was able to demonstrate, as
2 she anticipated, no withdrawal effects of nicotine?

3
4 MR. FOWLER: Object to the form.
5

6 A What I found out from Dr. Levy
7 was that the methodology she was going to use when
8 she was setting up the particular demonstration was
9 not able to even, with the control compounds she was
10 using, demonstrate anything. So, the technique or the
11 method did not work, and I don't believe she ever
12 even went to test nicotine, as I recall.

13 Q Well, what was the methodology?

14 A Well, for example, she was trying
15 to repeat what was in literature on morphine, for
16 example, or caffeine or one of some other compound,
17 and she was not able to repeat what was in
18 literature, and I don't recall exactly which
19 compound.

20 Q Was there anything else about the
21 methodology that you recall, after having reviewed
22 the notes of Dr. Carolyn Levy and spoken to her about

23 this?
24 A No. I have to tell you, I don't
25 focus on things that don't work.

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Ellis - Direct

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1 Q Well, the next sentence says, if,
2 however, the results with nicotine are similar to
3 those gotten with morphine and caffeine, we will want
4 to bury it. Do you see that?

5 A I see it in the document, yes.
6 And the point I'm trying to make, and it may have
7 been caffeine, she wasn't even able to reproduce
8 those effects.

9 Q Do you have any idea why Dr. Dunn
10 is writing here, if the results with nicotine are
11 similar to those gotten with morphine and caffeine,
12 we will want to bury it?

13 A I--

14

15 MR. FOWLER: John, you may not
16 remember, but you asked these very questions earlier
17 in this deposition, so I'm going to object. It's
18 been asked and answered.

19 You can go ahead.

20

21 A I don't know what's in Dr. Dunn's
22 mind, today or in 1977.

23 Q Do you know how many things that
24 Dr. Dunn buried during the time he worked at Philip
25 Morris?

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Ellis - Direct

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1 MR. FOWLER: Object to the form of
2 the question.

4 MR. GADDES: Object to the form.

6 A I'm not aware of anything.

8 MR. HOAG: Give me about three
9 minutes. I probably won't have very many questions
10 left--maybe none.

11 MR. GADDES: Okay.

13 NOTE: At this point, a recess was
14 had from 5:26 p.m. to 5:28 p.m., whereupon the
15 deposition proceeded, viz:

17 BY MR. HOAG:

18 Q Dr. Ellis, do you know whether
19 ammonia is added to tobacco?

20 MR. FOWLER: Object to the form.

22
23 A Ammonia itself is not.

24 Q Is there some derivative of
25 ammonia that's added to tobacco?

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Ellis - Direct

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1 A Well, it's not a derivative.
2 There are other compounds that contain ammonia.
3 Q And, what are other compounds
4 that contain ammonia that are added to cigarettes?
5 A Diamonium phosphate, for example.
6 Q Do you know whether or not
7 ammonia enhances the addictiveness of cigarettes?
8

9 MR. GADDES: Object to the form.
10 MR. FOWLER; object to the form.
11

12 A Well, in order for me to
13 adequately address that, I'm going to need to know
14 what you mean by addictiveness.

15 Q Do you have any definition of
16 addiction?

17 A Well, there are obviously a
18 variety, and my definition that I go with is one
19 that's obviously scientific and objective and
20 involves three different components. And, you know,
21 if that's the one you want me to use, that's fine.

22 Q Do you consider the definition
23 used by the Surgeon General of the United States in
24 the report issued in 1989 to be scientific and
25 objective?

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Ellis - Direct

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1
2
3 MR. FOWLER: It was 1988.
4

5 A Yeah, 1988.
6 Q '88, I stand corrected. Do you
7 consider that to be scientific and objective, that
8 definition used in the Surgeon General's report of
9 1988?

10 A Well, let me explain a little bit
11 about what's happened. In 1964, a determination was
12 made by the Surgeon General that cigarette smoking
13 was not addictive, and it was based on these
14 objective pharmacological criteria that I, you know,
15 mentioned. And, over the years, what's happened is
16 the definition has changed slightly, and sometimes
17 more than slightly, to include things that are wholly
18 behavioral in nature. So, even Surgeon General Koop
19 has referred to video games as being addictive, and
20 there is obviously no pharmacological component to
21 that.

22 So, right now behaviors or
23 repeated behaviors are being addictive or termed
24 addictive, okay. So, you know, there's a gamut of

25 definitions, and I think that before an adequate

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Ellis - Direct

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1 answer can be offered to your question, we're going
2 to have to have some common understanding of what
3 definition we are communicating on.

4 Q Okay.

5

6 MR. HOAG: Move to strike the
7 entire answer, because it didn't respond in any way
8 to my question.

9 (Addressing the Court Reporter)
10 Could you read back my last question, please?

11

12 NOTE: The requested question was
13 read aloud by the Reporter.

14

15 Q That was my only question, do you
16 consider the definition used in the Surgeon General's
17 report of 1988, the definition for addiction, to be
18 scientific and objective?

19 A I think there are some behavioral
20 components that are put in that definition, and,
21 therefore, they are not as objective as the previous
22 one.

23 Q Your Disclosure Statement says
24 that you may testify about allegations pertaining
25 to--I'm using your wording--allegations pertaining to

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Ellis - Direct

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1 nicotine and "manipulation" and spiking reconstituted
2 tobacco. What is your opinion concerning allegations
3 about nicotine manipulation and spiking?

4 A My opinion is we don't do it.

5 Q What is the basis of that
6 opinion?

7 A My basis for that is
8 understanding the product, understanding the
9 components of the product, how it's designed,
10 understanding what design components of the product
11 relate to the delivery. My understanding is, 18 years
12 of work at Philip Morris as a scientist and as the
13 head of R and D.

14 Q You're not a tobacco blender,
15 right?

16 A No.

17 Q You don't have experience in the
18 process of blending?

19 A We don't blend, but we do the
20 analysis and understand the filler components, the
21 chemistry thereof.

22 Q Do you know whether Philip
23 Morris--the nicotine or alkaloid content of its
24 cigarette products on a regular basis?

25

Ellis - Direct

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1 MR. FOWLER: We couldn't get that
2 question.

3 DR. ELLIS: No.

4

5 Q Do you know whether or not Philip
6 Morris monitors the nicotine alkaloid content of its
7 cigarette products on a regular basis?

8

9 MR. FOWLER: Object to the form of
10 the question.

11

12 A Well, obviously testing is
13 required in order to display an FTC tar and nicotine
14 number, but, you know, obviously, that's required.

15

Q You are--

16

A If that's what you mean.

17

Q --aware that Philip Morris, if it
18 chose to, could take all the nicotine out of its
19 cigarettes, correct?

20

A No, that's not correct.

21

Q Well, denicotinized products took
22 out virtually all of the nicotine, correct?

23

A I'm sorry. I didn't hear that.

24

Q You're aware that Philip Morris
25 attempted to market a product that was called a

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Ellis - Direct

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1 denicotinized product, correct?

2 A Denic product, yes, we did
3 attempt to do that, yes.

4

Q And denicotinized means that you
5 take out the nicotine, correct?

6

A Yes, but not all the nicotine.

7

Q All right. When you took out
8 almost, but not all the nicotine, that is something
9 that Philip Morris could do on any of its cigarette
10 products, correct, if they wanted to? Correct?

11

12 MR. FOWLER: Object to the form.

13

14 A We could put together more pilot
15 plans and extract more tobacco, if that's what you
16 mean.

17

Q No, I mean you could, just like
18 you developed a denicotinized product, and you took
19 out a very large percentage of the nicotine, you
20 could do the same thing for all of the cigarette
21 products you sell, correct?

22

23 MR. FOWLER: Are you just talking
24 about technological feasibility? Is that you
25 question?

Ellis - Direct

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1
2 Q Does the witness understand my
3 question?
4

5 MR. FOWLER: I'm not sure. I'm
6 asking you a question to try to clarify it.
7

7 MR. HOAG: It want to know if the
8 witness understands, Greg.
9

10 A I think what you're asking is
11 whether or not we could apply the Denic extraction
12 process to all the filler that goes in all of our
13 cigarettes. Is that your question?
14 Q Yes.
15 A If we built enough plants, we
16 could do that, but those would not be commercially
17 viable cigarettes, from a subjective standpoint.
18 Q Well, that's because Philip
19 Morris knows that it needs to make sure there is a
20 certain level of nicotine in all the cigarette
21 products in order to keep people smoking the
22 products, correct?
23

24 MR. GADDES: Object to the form.
25 Argumentative.

Ellis - Direct

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1
2 A Incorrect, because we have
3 cigarettes on the market right now that have almost
4 the same level of nicotine. But, because they didn't
5 go through the extraction process, they were not
6 subjected to the processing changes that resulted in
7 some of the subjective changes associated with the
8 Denic product. So, it is more complicated than just
9 removing nicotine.
10 Q Which product does Philip Morris
11 have on the market today that has the same amount of
12 nicotine as the Denic product has?
13

14 MR. FOWLER: Object to the form.
15

16 A The one milligram products.
17 Q Does the Denic cigarette have one
18 milligram of nicotine in it?
19 A No-no. That's one milligram of

20 tar in it. A one-milligram-tar product would have
21 about a tenth of a milligram of nicotine and the
22 Denic product had approximately.08, so it's very,
23 very close.
24 Q What product are you referring
25 to?

1 A Well, there are a number of
2 one-milligram products in the marketplace today; some
3 of the Merit brand extensions, for example.

4 Q Okay. So, the .08 milligrams of
5 nicotine, no one would buy that, correct?

6 A Again,--

7

8 MR. FOWLER: Object to the form.

9

10 A --I'm trying to very objectively
11 and clearly explain that it isn't that they wouldn't
12 buy .08 or they're going to buy .1. When you're
13 doing an experiment, you're comparing two things.
14 You have to just change one variable. And there were
15 other things that were different about the Denic
16 product. The filler was extracted, other things were
17 extracted, and you just can't compare two products
18 like that.

19 Q Okay. So what you're saying is,
20 Philip Morris sells some cigarette products that have
21 less nicotine in them than other cigarette products,
22 correct?

23 A Wow. Yes and no. The way you're
24 wording it is technically confusing. When you're
25 talking about less nicotine in them, if you're saying

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1 less nicotine in the filler, maybe the nicotine
2 concentration in the filler is, you know, per unit
3 gram or unit weight of tobacco is the same. But,
4 because we use ventilation, because we reduce the tar
5 so much or we use a lot of expanded tobacco, for
6 example, you're going to have a product that delivers
7 less tar and, therefore, it delivers less nicotine.

8 So, you know, it isn't--it isn't
9 a matter of, you know, what's in the product. There
10 are other factors in terms of how the cigarette is
11 designed.

12 Q Okay. The product that you sell
13 with the lowest--the product that you actually sell
14 now with the lowest amount of nicotine in it is what,
15 the Merit products?

16 A An Ultima.

17 Q The Merit Ultima? Is that
18 correct?

19 A That's one of them. I think
20 Cambridge is down there, also.

21 Q Okay. What is the market share
22 for the Merit Ultima?

23 A Oh, geez, again, I think it's
24 about .1. I mean, you know, there are over 100
25 different brand extensions, and I haven't memorized

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1 everything.
2 Q You think the market share for
3 Merit is--
4 A I'm sorry. Not-- You said market
5 share. I thought you said what does the market show?
6 Q The market share for Merit.

7
8 MR. FOWLER: The Ultima you're
9 talking about, right?

10 MR. HOAG: The Ultima, what is the
11 market share?

12 A I don't recall offhand. I think,
13 overall, the ultra low products represent maybe two
14 or three percent of the market right now. That's my
15 best guess right now.

16 Q And the Marlboro, the Marlboro
17 product, the Marlboro full flavor, what percent of
18 the market does it have?

19 A I, again, it's less than the
20 Marlboro Lights. Marlboro Lights is the leading
21 market share for the Marlboro brand family.

22 Q Oh, the Marlboro Lights, how much
23 nicotine does the Marlboro Lights have in it?

24 A Marlboro Lights is about a 12--

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1 11-12 milligrams, so it would have about .1, point --
2 let's see, 10 -- It would have about one milligram,
3 excuse me. One, 1.2, as I recall.

4 Q That's a nice dose of nicotine,
5 isn't it?

6
7 MR. FOWLER: Object to the form of
8 the question.

9
10 Q That's the optimal dose of
11 nicotine that Dr. Gullotta found to do most
12 satisfying for the most smokers, correct?

13 MR. GADDES: Object to the form.
14 MR. FOWLER: Object to the form.

15 A Optimal for what? Taste?
16 Q Optimal for selling a lot of
17 people cigarettes and keeping them smoking, correct?

18 MR. GADDES: Object to the form.
19 Assume facts.

20 MR. FOWLER: Object to the form.

21
22 Q Correct?

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1 A No.
2 Q Well, it's just-- It is true,
3 though, that the Marlboro Lights has 1.0,
4 approximately 1.0 milligrams of nicotine per
5 cigarette, correct?
6

7 MR. FOWLER: Object.
8

9 A The FTC nicotine number for
10 Marlboro Lights is approximately one milligram, 1.2
11 milligrams, in that vicinity.

12 Q And that's your best selling
13 product, correct?

14 A For the Marlboro brand family,
15 yes, that's the best selling cigarettes. That's
16 correct.

17 Q And Marlboro is the best selling
18 cigarette in the world or in the United States, at
19 least, correct?

20 A Yes, and, obviously, it has
21 nothing to do with nicotine.

22 Q Well, that may be, in your
23 opinion, that may be obvious. But, to a lot of
24 people, that's not at all obvious, you understand
25 that, correct?

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Ellis - Direct

1
2 MR. GADDES: Object to form.
3 MR. FOWLER: Object to the form.
4
5 A Well, you know, I really think
6 it's a matter of common sense. When there are many
7 other products, cigarettes, around the world with the
8 same nicotine delivery and that higher nicotine
9 deliveries are available but smokers are not flocking
10 to those, I think it's a matter of common sense.

11 Q But, Dr. Gullotta found there was
12 a level of nicotine where people didn't prefer it
13 when it got to be higher than 1.2 milligrams,
14 correct?

15
16 MR. FOWLER: Objection to the
17 form.

18 MR. GADDES: Object to the form.
19 MR. FOWLER: It's been asked and

20 answered about eleven times now.

21
22 Q That's correct, isn't it?

23 A What is correct, as I indicated
24 before, is when you artificially change the ratio of
25 nicotine to tar, which is a natural component of the

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Ellis - Direct

1 cigarette, that is, nicotine follows tar, when you
2 artificially change that, you are going to change the
3 overall taste of the cigarette, and that is what the
4 smoker is objecting to.

5 Q Have you reviewed the depositions
6 taken in the Engel case?

7 A Yes, I have.

8 Q Which depositions have you
9 reviewed?

10 A I reviewed Dr. Lilly's
11 deposition, Dr. Solana's deposition, and a part of
12 Dr. Gullotta's deposition.

13 Q And, other than that, have you
14 reviewed any other witnesses' depositions in Engel?

15 A Not that I recall, no.

16

17 MR. HOAG: I have no other
18 questions.

19 MR. FOWLER: We will preserve our
20 questions of this witness for the time of trial.

21 MR. HOAG: Okay. She is going to
22 read the depo, of course, correct?

23 MR. FOWLER: Read and sign, yes,
24 indeed.

25

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Ellis - Direct

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1
2 And, further this deponent saith not.
3 FURTHER, the deponent read the same and subscribed
4 her name thereto.

5

6

7

8

9

10

11

12

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16

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20

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24

25

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Ellis - Direct

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1 COMMONWEALTH OF VIRGINIA,
2 CITY/COUNTY OF _____, to-wit:
3
4
5 I, CATHY LYNN ELLIS, Ph.D., do hereby
6 certify that I have read the foregoing pages of
7 typewritten matter numbered 4 through 168, and that
8 the same contains a true and correct transcription of
9 the deposition given by me on the 1st day of July,
10 1998, at Richmond, Virginia, to the best of my
11 knowledge and belief.
12
13

14 DATE CATHY LYNN ELLIS
15
16

17 Subscribed and sworn to before me this
18 day of , 1998.

19 My Commission Expires: .
20
21
22
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24 Notary Public
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CRANE-SNEAD & ASSOCIATES, INC.

Ellis - Direct

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1 COMMONWEALTH OF VIRGINIA,
2 COUNTY OF HENRICO, to wit:
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4 I, PATRICIA PRICE WHITE, a Notary Public for
5 the State of Virginia at Large, do hereby certify
6 that the foregoing deposition of CATHY LYNN ELLIS,
7 Ph.D. was duly taken and sworn to before me at the
8 time and place set out in the caption; further, that
9 the witness read the same and subscribed her name
10 thereto.

11 Further, that the transcript of the
12 deposition is true and correct, and that there were
13 five (5) exhibits filed with me during the taking
14 hereof and are attached to the back of the original
15 deposition transcript.

16 Given under my hand this 17th day of July,
17 1998.

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21 PATRICIA PRICE WHITE, RPR, CP
22 Notary Public for the State
23 of Virginia at Large
24 My Commission expires:
25 December 31, 1997

CRANE-SNEAD & ASSOCIATES, INC.